Traffic Survey

Los Angeles Metropolitan Area

Nineteen Hundred Thirty-seven

The Friend to all Motorists since 1900

Engineering Department

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Report No. 978

Presented to _____

Date _____

Traffic Survey

Los Angeles Metropolitan Area

Nineteen Hundred Thirty-seven

Engineering Department

AUTOMOBILE CLUB *of* SOUTHERN CALIFORNIA

E. E. EAST, CHIEF ENGINEER

H. F. HOLLEY, ASST. CHIEF ENGINEER

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Foreword

THE directors of the Automobile Club of Southern California early in January 1937 instructed its Roads and Highways Committee to undertake a comprehensive traffic survey in the metropolitan area of Los Angeles for the purpose of formulating and submitting recommendations for the betterment of street and highway traffic conditions therein. The data accumulated during the course of this survey, analysis of same and recommendations based thereon are the subject matters of this report.

STANDISH L. MITCHELL
General Manager
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Automobile Club of Southern California

GENERAL HEADQUARTERS - FIGUEROA STREET AT ADAMS - LOS ANGELES

MAIL ADDRESS
ARCADE STATION BOX 690
LOS ANGELES

December 16, 1937

To the President and Members
of the Board of Directors
Automobile Club of Southern California
Los Angeles, California

Gentlemen:-

Your Roads and Highway Committee begs to submit the following report of a traffic survey covering the Los Angeles metropolitan area, together with recommendations for the betterment of street and highway traffic conditions therein.

It is apparent to even the most casual observer that in spite of the large sums of money which have been and are being expended in improvements, the streets and highways of the Los Angeles area are daily becoming more difficult and hazardous to travel. It is also apparent that this growing congestion and accident toll is the direct result of an attempt to serve both abutting property and through traffic upon the same street or highway. Your Committee is convinced that the only permanent solution is to provide facilities for the exclusive use of motor vehicles.

In recommending the acquisition of a network of motorways to serve the transportation requirements of the Los Angeles area, we are mindful of the fact that the cost will be great. On the other hand, we are convinced that if a solution of this problem is not made the resulting loss in dollars and cents through increased operating costs, loss of life, injury to persons, property damage and ultimate readjustment of the economic life of the area will far exceed the cost of these facilities.

We wish to emphasize that the Los Angeles area has grown up with the automobile. Motor vehicle transportation has shaped its growth to the extent that the business and social life of the area is today vitally dependent upon the motor vehicle for the major part of its transportation. If street and highway congestion continues to increase, the day is not far distant when the automobile will in many parts of the area have lost its usefulness. At this time, the economic loss resulting from readjustment alone will have reached a staggering total.

The destiny of the Los Angeles area has ceased to be a matter of speculation. It is now conceded by all who have watched its growth that it will become one of the largest population and commercial centers of the world. Future orderly growth is vitally dependent upon the establishment of a system of transportation lines serving all parts of the area.

The first step toward a solution of the street and highway transportation problem of the Los Angeles area is the adoption by its citizens of a physical plan covering the entire area. The second step is the adoption of a financing plan which will distribute the cost equitably among the taxpayers of the area, and third the setting up of a single administrative authority to develop the plan.

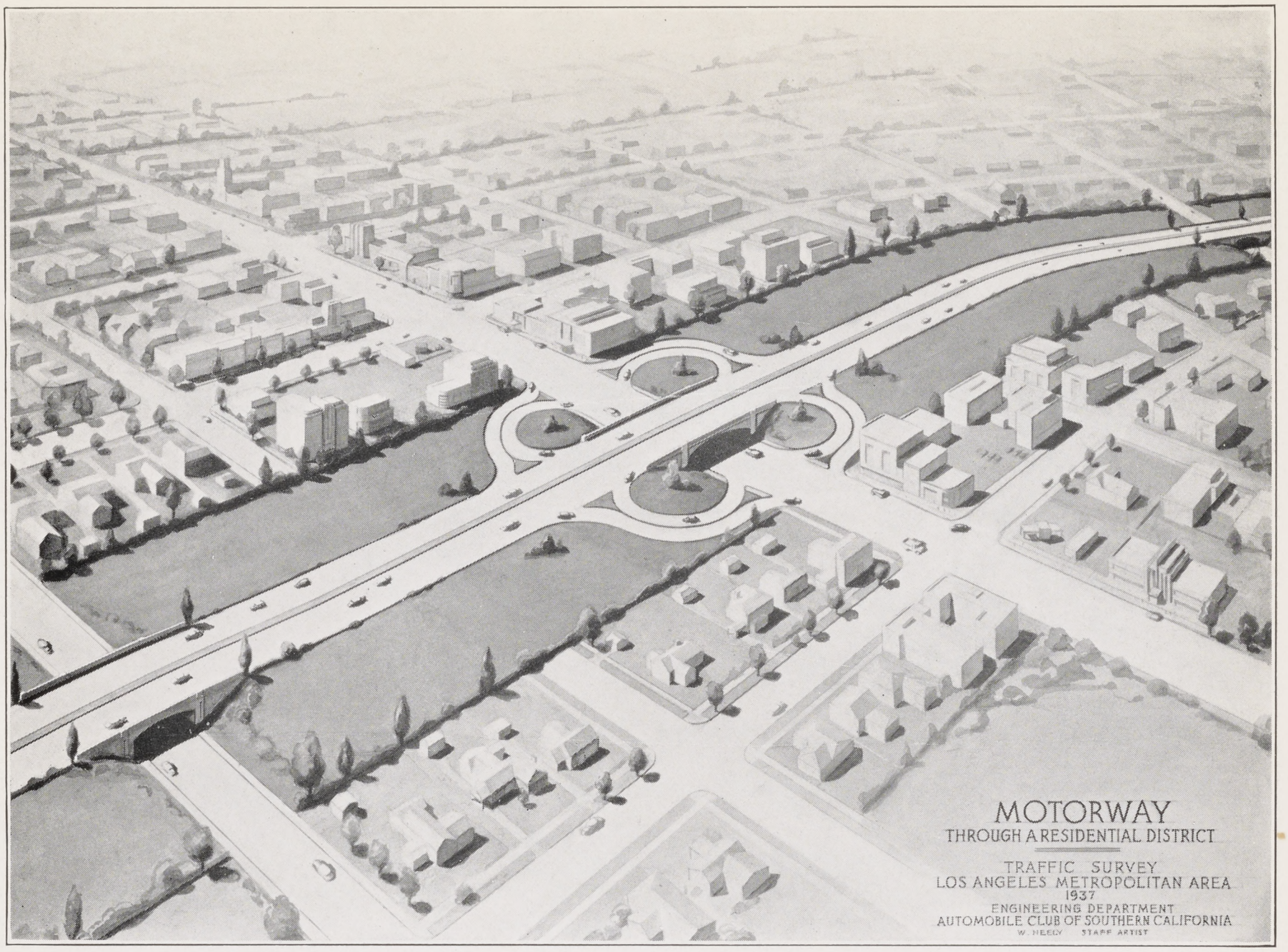
We are not including a financing plan at this time. We have, however, given sufficient study to this problem to say the physical plan herein recommended can be financed without placing an undue burden upon any group of taxpayers and if the citizens of the metropolitan area should adopt these recommendations or modifications thereof a detailed financing plan will be presented for consideration.

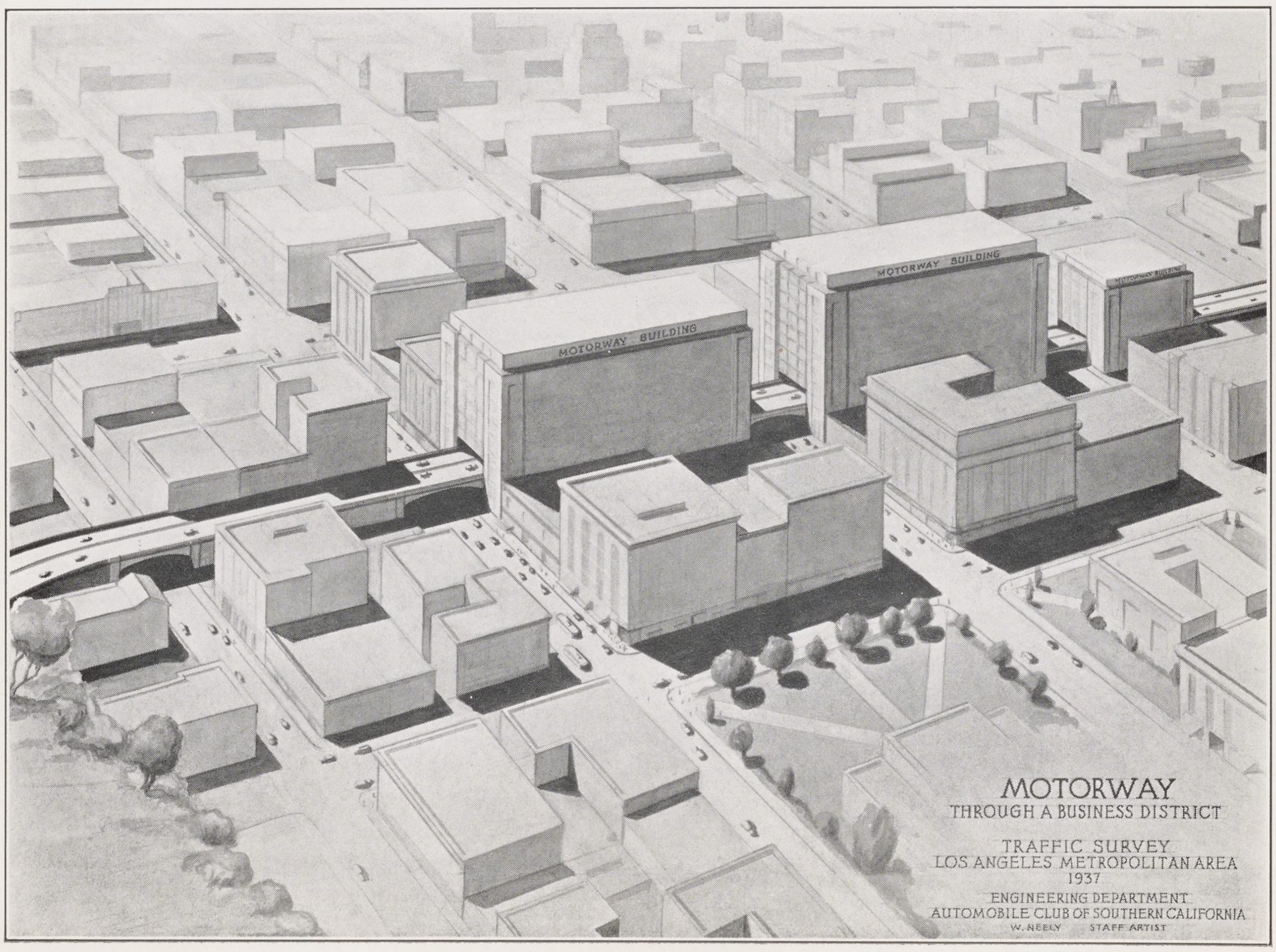
Respectfully submitted,

H. W. Keller
Henry W. Keller, Chairman,
Roads and Highways Committee

Horace G. Miller
Horace G. Miller, Member

Henry S. MacKay
Henry S. MacKay, Jr., Member


MOTORWAY
THROUGH A RESIDENTIAL DISTRICT
TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
1937
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
W. NEELY STAFF ARTIST


MOTORWAY BUILDING
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THROUGH A BUSINESS DISTRICT
TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
1937
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TRAFFIC SURVEY

LOS ANGELES METROPOLITAN AREA

1937

By

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

E. E. EAST . . . . . *Chief Engineer*
H. F. HOLLEY . . . . . *Assistant Chief Engineer*

Extent of Survey

Former studies of the ever-growing street traffic problem of Los Angeles have been confined, in general, to the area included within the city's boundaries and in particular to the central business district. With the rapid growth and spread of population and business activity during recent years, the problem has not only grown in intensity within the city proper but has spread far into contiguous territory where in many sections street congestion, traffic delays and hazard to life and property are as great as in the central traffic district of the City of Los Angeles. This study deals with the traffic problem of Los Angeles and its contiguous territory.

The Metropolitan Area

The Los Angeles metropolitan area as outlined for the purposes of this survey is bounded on the north by the foothills of the San Gabriel Mountains, on the east by the Los Angeles County line, on the south and southwest by the Pacific Ocean and on the west by the west city limits of the City of Los Angeles. It has an area of about 1,235 square miles, or 31% of the county total, and is that portion of Los Angeles County generally referred to as the coastal plain. This coastal plain region occupies a strategic position in the transportation net-work of California. Lying as it does between the Pacific Ocean on the south and the San Gabriel Mountains on the north, and having a width of about twenty miles at its narrowest point, it forms a veritable bottleneck through which all north and south travel must pass. The traffic problem of this area is, therefore, not only a local problem but one of considerable concern to the state as a whole.

Land Subdivision and Use

There are forty-three incorporated cities in the Los Angeles area. These cities have a combined area of 716 square miles, or about 58% of the total. The remaining 42% of the metropolitan area, consisting largely of disconnected parcels varying in size, is under county jurisdiction.

The metropolitan area as herein defined and the incorporated and unincorporated territory therein is shown on Plate No. 1.

The land comprising the Los Angeles area is divided into relatively small parcels by some 11,316 miles of streets and highways. Due to lack of forethought on the part of subdividers in the planning and laying out of subdivisions and lack of co-operation between the many governmental bodies in planning and constructing streets and highways, the pattern of the metropolitan area resembles in appearance that of a crazy quilt.

The development of the Los Angeles area was not planned. It just grew by the piecing together through the years of numerous subdivisions. Land use has been determined largely upon the individual owner's guess as to the most profitable use that could be made of his holdings. This guess, confused by the wide-spread use of the automobile as a means of individual transportation, has produced a chaotic intermingling of the vari-

WILSHIRE BOULEVARD AT BONNIE BRAE STREET—
TYPICAL OF CONGESTION ON EXISTING MAJOR STREETS

ous land uses throughout the area. In general, land abutting on the principal streets and highways is devoted to commercial and other uses, which directly or indirectly retards the movement of vehicles. There is little stability in either business or residential districts and the streets and highways are congested out of all proportion to service rendered. Blighted residential as well as commercial districts are numerous throughout the area and the process continues.

Transportation Facilities

Transportation of persons within the Los Angeles metropolitan area is divided between street and interurban rail lines, motor buses, taxicabs and passenger automobiles. The transportation service rendered by these facilities can be expressed in terms of operating statistics for the calendar year 1936, which are as follows:

THE LOS ANGELES RAILWAY CORPORATION

Miles of track operated	374.78
Car miles operated	30,809,959
Total passengers carried (all classes)	241,983,411
Average haul per passenger (estimated)	5 miles
Total passenger miles	1,209,917,055

PACIFIC ELECTRIC RAILWAY COMPANY

(entire system)	
Miles of track operated	872.91
Car miles operated	18,276,962
Total passengers carried (entire system)	64,710,400
Average haul per passenger (estimated)	10 miles
Total passenger miles	647,104,000

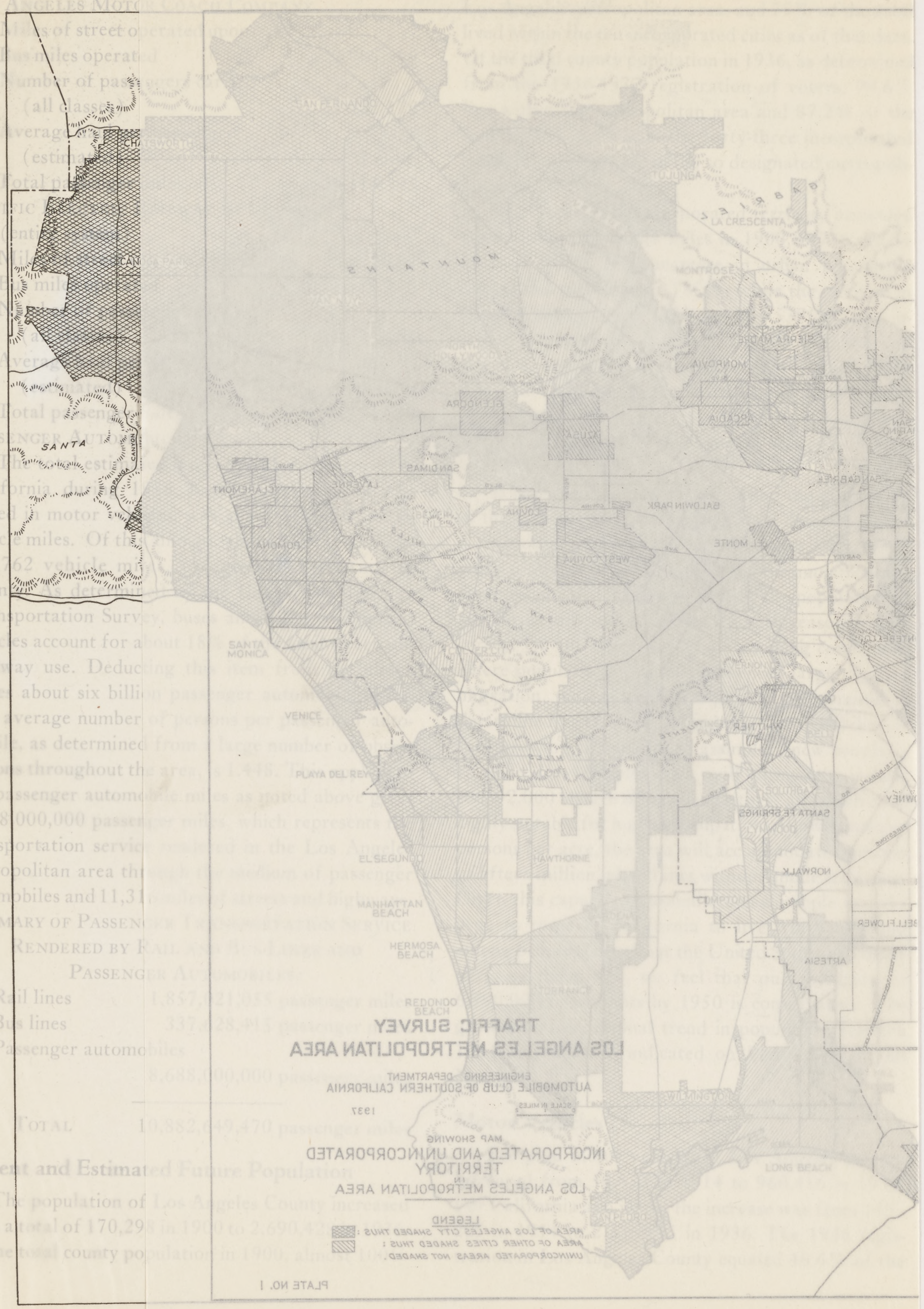
SANTA
TOPANGA CANYON
SANTA MONICA
VENICE
PLAYA DEL REY
MANHATTAN BEACH
HERMOSA BEACH
REDONDO BEACH
EL SEGUNDO
HAWTHORNE
WILMINGTON
LONG BEACH
SAN PEDRO
TOPANGA
LA CRESCENTA
MONTROSE
MONROVIA
ARCADIA
SIERRA MADRE
SAN GABRIEL
SAN MARINO
SAN DIMAS
CLAREMONT
POMONA
LA VERNE
SALDWIN PARK
WEST COVINA
EL MONTE
SOUTH GATE
SANTA FE SPRINGS
NORWALK
ARTESIA
BELLFLOWER
WHITTIER
MOUNTAINS
TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937
MAP SHOWING
INCORPORATED AND UNINCORPORATED
TERRITORY
IN
LOS ANGELES METROPOLITAN AREA
LEGEND
AREA OF LOS ANGELES CITY SHADED THUS :
AREA OF OTHER CITIES SHADED THUS :
UNINCORPORATED AREAS NOT SHADED.
PLATE NO. 1

PLATE 1

WILSHIRE BOULEVARD AT BONNIE BRAE STREET—
TYPICAL OF CONGESTION ON EXISTING MAJOR STREETS

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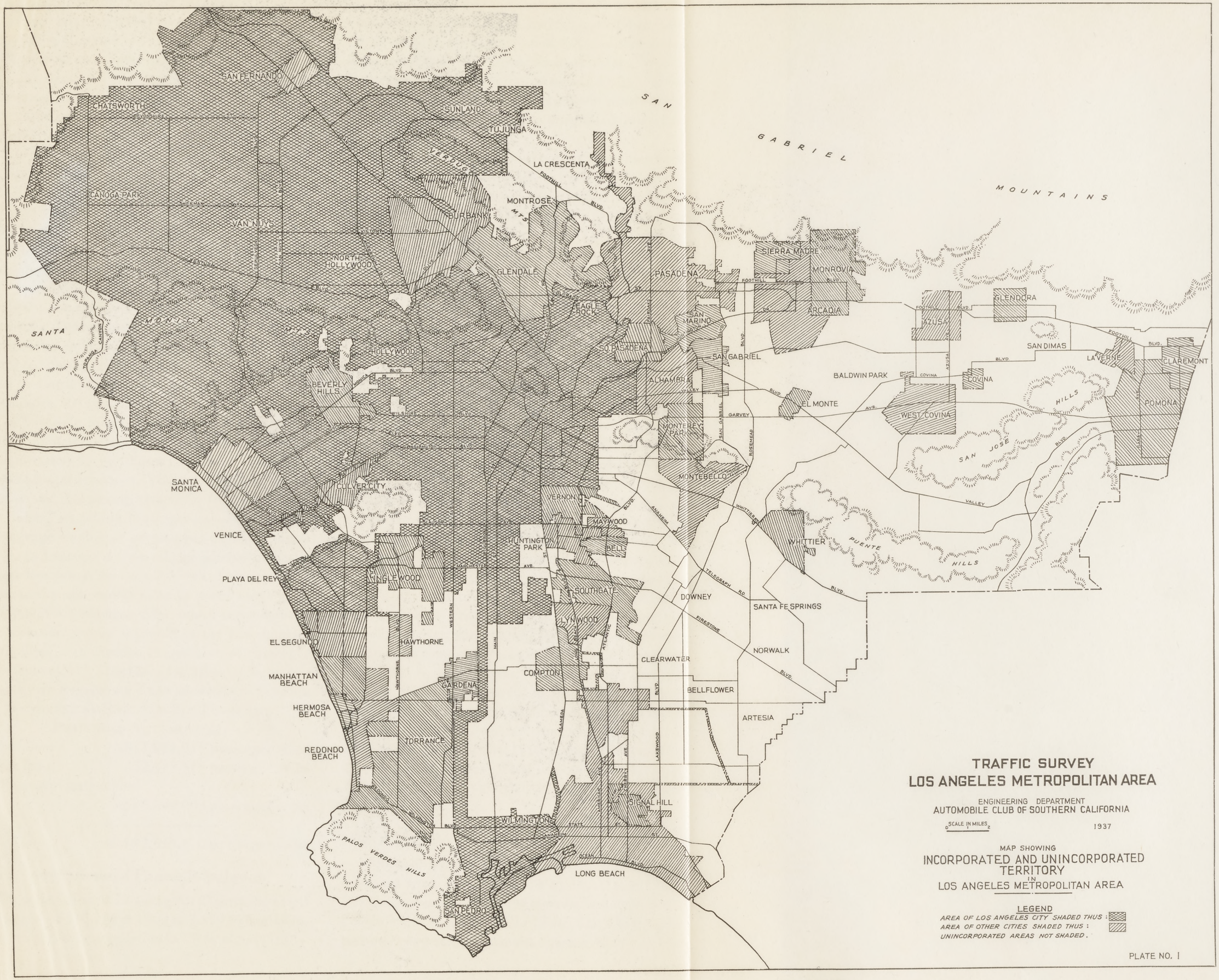


TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

SCALE IN MILES 0 1 2

1937

MAP SHOWING
INCORPORATED AND UNINCORPORATED TERRITORY
IN
LOS ANGELES METROPOLITAN AREA

LEGEND

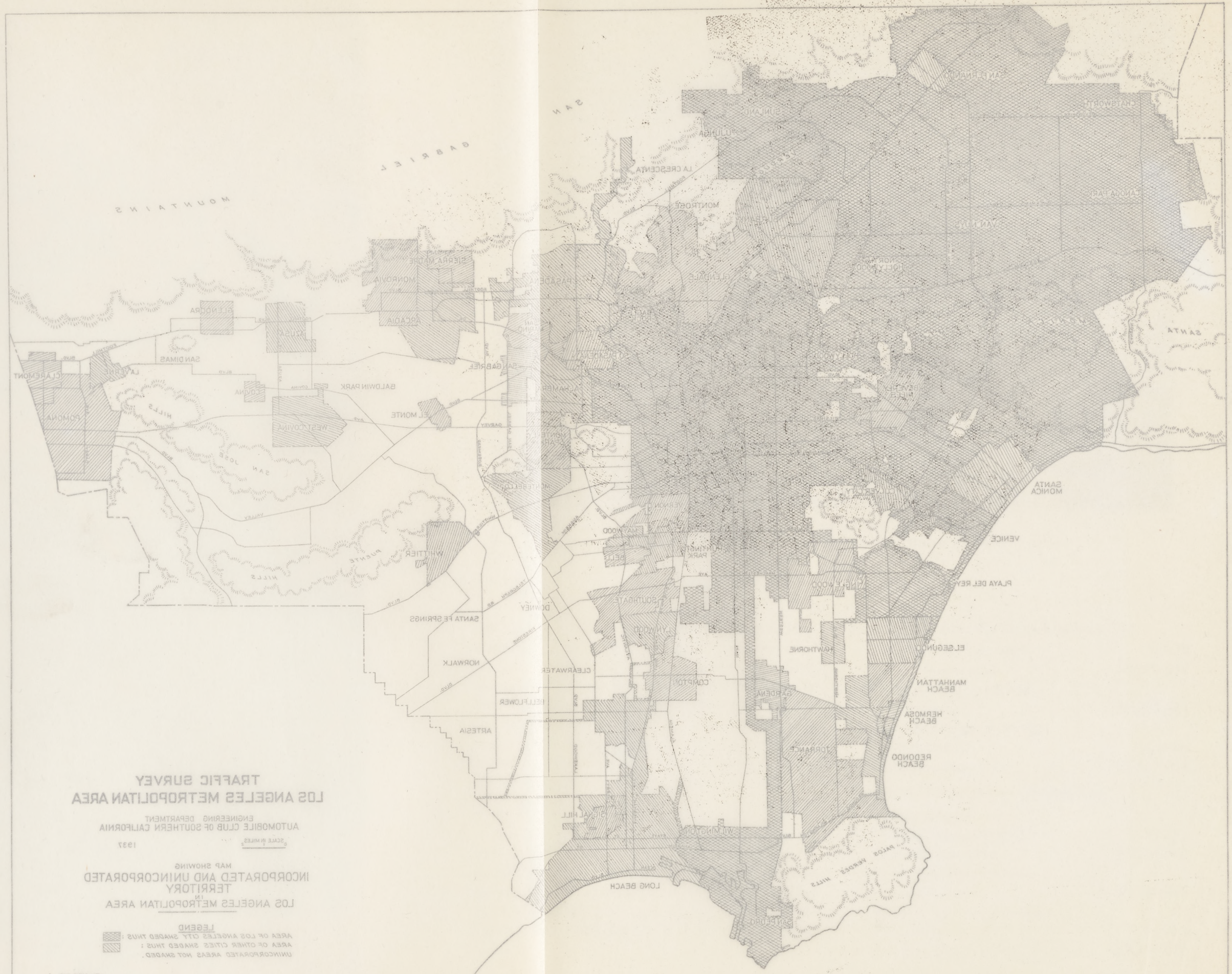
AREA OF LOS ANGELES CITY SHADED THUS :

AREA OF OTHER CITIES SHADED THUS :

UNINCORPORATED AREAS NOT SHADED.

PLATE NO. I

PLATE I



TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

SCALE IN MILES

1937

MAP SHOWING
INCORPORATED AND UNINCORPORATED
TERRITORY
IN
LOS ANGELES METROPOLITAN AREA

LEGEND

AREA OF LOS ANGELES CITY SHADED THUS :

AREA OF OTHER CITIES SHADED THUS :

UNINCORPORATED AREAS NOT SHADED.

PLATE NO. 1

PLATE 1

BUS LINES

LOS ANGELES MOTOR COACH COMPANY

Miles of street operated upon	117
Bus miles operated	7,989,299
Number of passengers carried (all classes)	25,222,879
Average haul per passenger (estimated)	5 miles
Total passenger miles	126,114,395

PACIFIC ELECTRIC RAILWAY BUS LINES (entire system)

Miles of street operated upon	211.09
Bus miles operated	7,569,770
Number of passengers carried (all classes)	21,151,402
Average haul per passenger (estimated)	10 miles
Total passenger miles	211,514,020

PASSENGER AUTOMOBILES

The total estimated street and highway travel in California during 1936, based upon gasoline consumed in motor vehicles, was about 17,862,326,250 vehicle miles. Of this amount, about 41%, or 7,323,553,762 vehicle miles, occurred in Los Angeles County. As determined by the California Highway Transportation Survey, buses and other commercial vehicles account for about 18% of the total street and highway use. Deducting this item from the above leaves about six billion passenger automobile miles. The average number of persons per passenger automobile, as determined from a large number of observations throughout the area, is 1.448. This applied to the passenger automobile miles as noted above gives 8,688,000,000 passenger miles, which represents the transportation service rendered in the Los Angeles metropolitan area through the medium of passenger automobiles and 11,316 miles of streets and highways.

SUMMARY OF PASSENGER TRANSPORTATION SERVICE RENDERED BY RAIL AND BUS LINES AND PASSENGER AUTOMOBILES:

Rail lines	1,857,021,055 passenger miles
Bus lines	337,628,415 passenger miles
Passenger automobiles	8,688,000,000 passenger miles
TOTAL	10,882,649,470 passenger miles

Present and Estimated Future Population

The population of Los Angeles County increased from a total of 170,298 in 1900 to 2,690,428 in 1936. Of the total county population in 1900, almost 100% lived within what has been designated herein as the Los Angeles metropolitan area, and 75% of the total lived within the ten incorporated cities as of that date. Of the total county population in 1936, as determined from the 1936-1937 registration of voters, 99.6% live within the metropolitan area and 87.2% of the county total live within the forty-three incorporated cities, all of which are in the so designated metropolitan area.

The area of the incorporated territory increased from about 112 square miles in 1900 to 716 square miles in 1937. The increase in urban population during this period was 1735%, while the increase in area of incorporated territory was 539%. The increase in population in the rural portion of the Los Angeles metropolitan area between 1900 and 1936 was 450%. We have platted the population growth of the Los Angeles area from 1890 to 1936 and projected this curve to 1950. The population indicated in 1950 is 6,500,000.

It is recognized that in estimating the population of the Los Angeles area at any future date, one guess is as good as another. In a community or state where population growth is determined by the numerical difference between births and deaths, the population at any future time can be estimated with reasonable accuracy. On the other hand, in a growing community where population growth is influenced largely by immigration, the rate at which population increases is determined by economic conditions and the ability of such growing community to assimilate new people.

The Los Angeles area will ultimately include some 2,000 square miles of territory, all of which is highly suitable for human occupation. Allowing twelve persons per acre, the area will accommodate in excess of fifteen million inhabitants without undue crowding. Given this capacity to assimilate new people and the urge to come to California to live which is found among people throughout the United States and many parts of the world, we feel that our estimate of 6,500,000 inhabitants by 1950 is conservative. The growth and directional trend in population between 1924 and 1936 is indicated on Plates No. 2 and No. 3.

Motor Vehicles

Fee paid motor vehicles in Los Angeles County increased from 50,853 in 1914 to 960,416 in 1936. For California as a whole the increase was from 148,225 in 1914 to 2,336,845 in 1936. The 1936 registration in Los Angeles County equaled 40.6% of the

state total. Accurate information is not available as to the distribution of these motor vehicles as between the metropolitan area and remaining county territory, but it is assumed that this distribution is in about the same ratio as population distribution. On this basis we have estimated that there are, including exempt vehicles, buses, taxicabs and vehicles from other California counties and other states, not less than one million motor vehicles in use during some part of each day upon the streets and highways of this area.

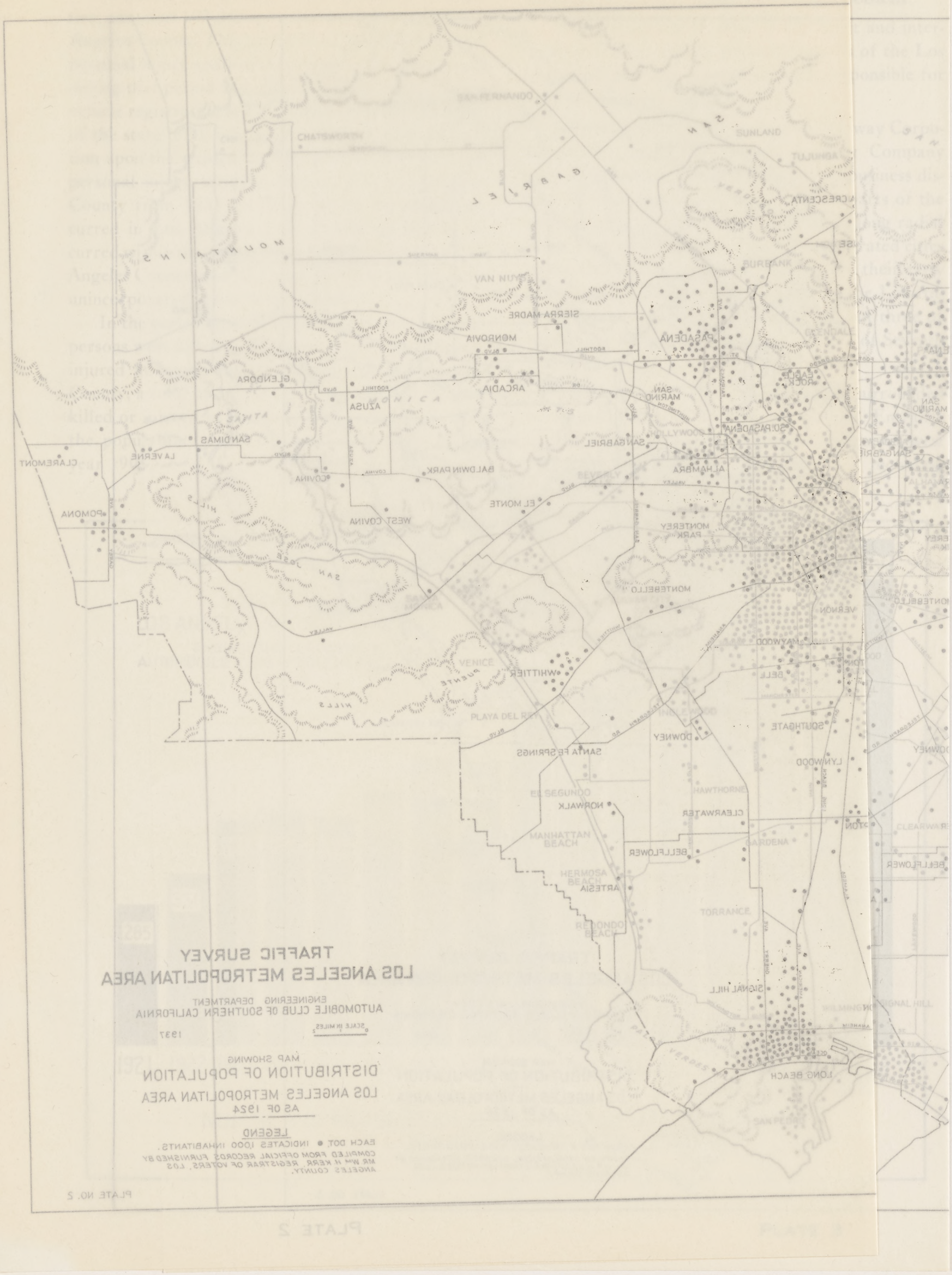
Motor vehicle registration in the Los Angeles area during 1936 exceeded total state registration in all but seven states. These states were California, New York, Ohio, Michigan, Illinois, Pennsylvania and Texas. The ratio of population to motor vehicles in the Los Angeles area, based upon the 1936 estimate of population, was 2.8 persons to each registered vehicle. This ratio in Chicago, Detroit, New York and Philadelphia was 8.2, 4.4, 11.6 and 9.0 to 1 respectively. It is believed that the density per square mile of automobile use is greater, particularly in the congested portions of the Los Angeles area, than in any other locality in the United States.

We have estimated that in 1950 there will be 2,155,000 motor vehicles registered in Los Angeles County. Based upon our estimate of population the ratio of population to registered motor vehicles in 1950 will be about three persons to each registered motor vehicle.

Motor Vehicle Accidents

There were 18,092 motor vehicle accidents reported in Los Angeles County during 1936. This was 49.8% of the state total. These accidents resulted in death or injury to 34,288 persons. Of the total number of motor vehicle accidents occurring in that year in Los Angeles County 16,110 occurred in city territory and 1,982 in rural territory.

ALVARADO STREET AT WILSHIRE BOULEVARD—MIXED TRAFFIC CONTRIBUTES TO CONGESTION


SAN FERNANDO
CHATSWORTH
SUNLAND
TUJUNGA
GLENDORA
AZUSA
ARCADIA
SAN MARINO
SAN DIMAS
LA VERNE
CLAREMONT
BALDWIN PARK
COVINA
EL MONTE
WEST COVINA
POMONA
MONTEREY PARK
MONTEBELLO
VERNON
HAYWOOD
BELL
WHITTIER
VENICE
PLAYA DEL REY
DOWNEY
SOUTHGATE
LYNWOOD
SANTA FE SPRINGS
EL SEGUNDO
NORWALK
CLEARWATER
HAWTHORNE
MANHATTAN BEACH
GARDENA
BELLFLOWER
HERMOSA BEACH
ARTESIA
TORRANCE
REDONDO BEACH
SIGNAL HILL
LONG BEACH
SAN PEDRO
PALOS VERDES
SIERRA MADRE
MONROVIA
PASADENA
ALHAMBRA
SOUTH PASADENA
SAN GABRIEL
TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937
SCALE IN MILES
MAP SHOWING
DISTRIBUTION OF POPULATION
LOS ANGELES METROPOLITAN AREA
AS OF 1924
LEGEND
EACH DOT ● INDICATES 1,000 INHABITANTS.
COMPILED FROM OFFICIAL RECORDS FURNISHED BY
MR WM H KERR REGISTRAR OF VOTERS, LOS
ANGELES COUNTY.
PLATE NO. 2

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There were 18,092 motor vehicle accidents reported in Los Angeles County during 1936. This was 49.8% of the state total. These accidents resulted in death or injury to 34,288 persons. Of the total number of motor vehicle accidents occurring in that year in Los Angeles County 16,110 occurred in city territory and 1,982 in rural territory.

ALVARADO STREET AT WILSHIRE BOULEVARD—MIXED TRAFFIC CONTRIBUTES TO CONGESTION

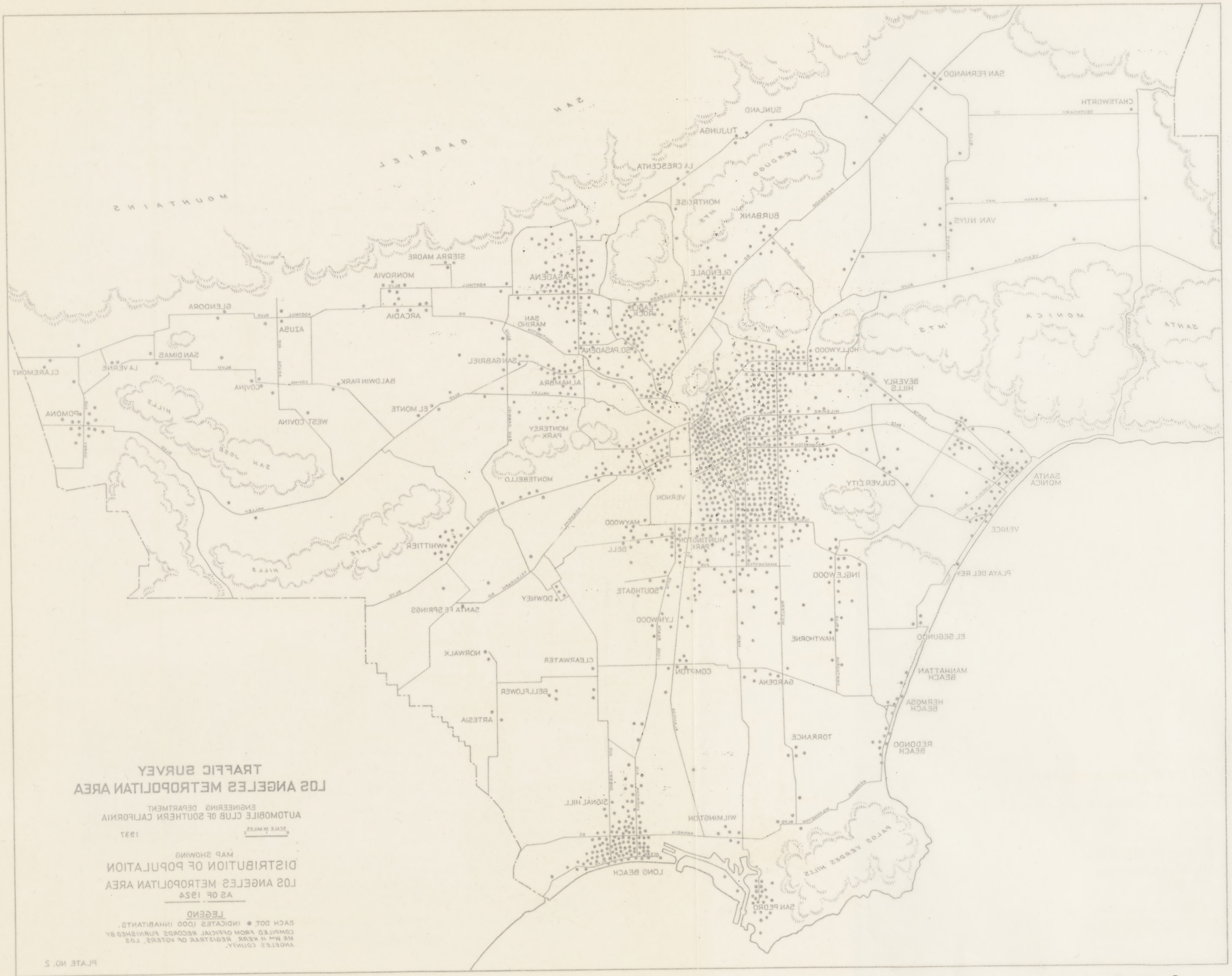

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
SCALE IN MILES
1937
MAP SHOWING
DISTRIBUTION OF POPULATION
LOS ANGELES METROPOLITAN AREA
AS OF 1924
LEGEND
EACH DOT ● INDICATES 1,000 INHABITANTS.
COMPILED FROM OFFICIAL RECORDS FURNISHED BY
MR W H KERR REGISTRAR OF VOTERS, LOS
ANGELES COUNTY.
PLATE NO. 2
SAN GABRIEL MOUNTAINS
SIERRA MADRE
MONROVIA
ARCADIA
PASADENA
SAN MARINO
SAN FERNANDO
CHATSWORTH
SUNLAND
TUJUNGA
LA CRESCENTA
MONTROSE
BURBANK
VAN NUYS
GLENDALE
GLENDORA
AZUSA
SAN DIMAS
LA VERNE
CLAREMONT
POMONA
COVINA
BALDWIN PARK
WEST COVINA
EL MONTE
ALHAMBRA
SAN GABRIEL
50. PASADENA
ROSE HILLS
HOLLYWOOD
BEVERLY HILLS
SANTA MONICA MTS
SANTA MONICA
CULVER CITY
VENICE
PLAYA DEL REY
MONTEREY PARK
MONTEBELLO
VERNON
MAYWOOD
HUNTINGTON PARK
BELL
SOUTHGATE
DOWNEY
SANTA FE SPRINGS
WHITTIER
PUENTE HILLS
LYNWOOD
INGLEWOOD
HAWTHORNE
EL SEGUNDO
MANHATTAN BEACH
HERMOSA BEACH
REDONDO BEACH
TORRANCE
NORWALK
CLEARWATER
COMPTON
GARDENA
BELLFLOWER
ARTESIA
SIGNAL HILL
WILMINGTON
LONG BEACH
SAN PEDRO
PALOS VERDES HILLS

PLATE 2

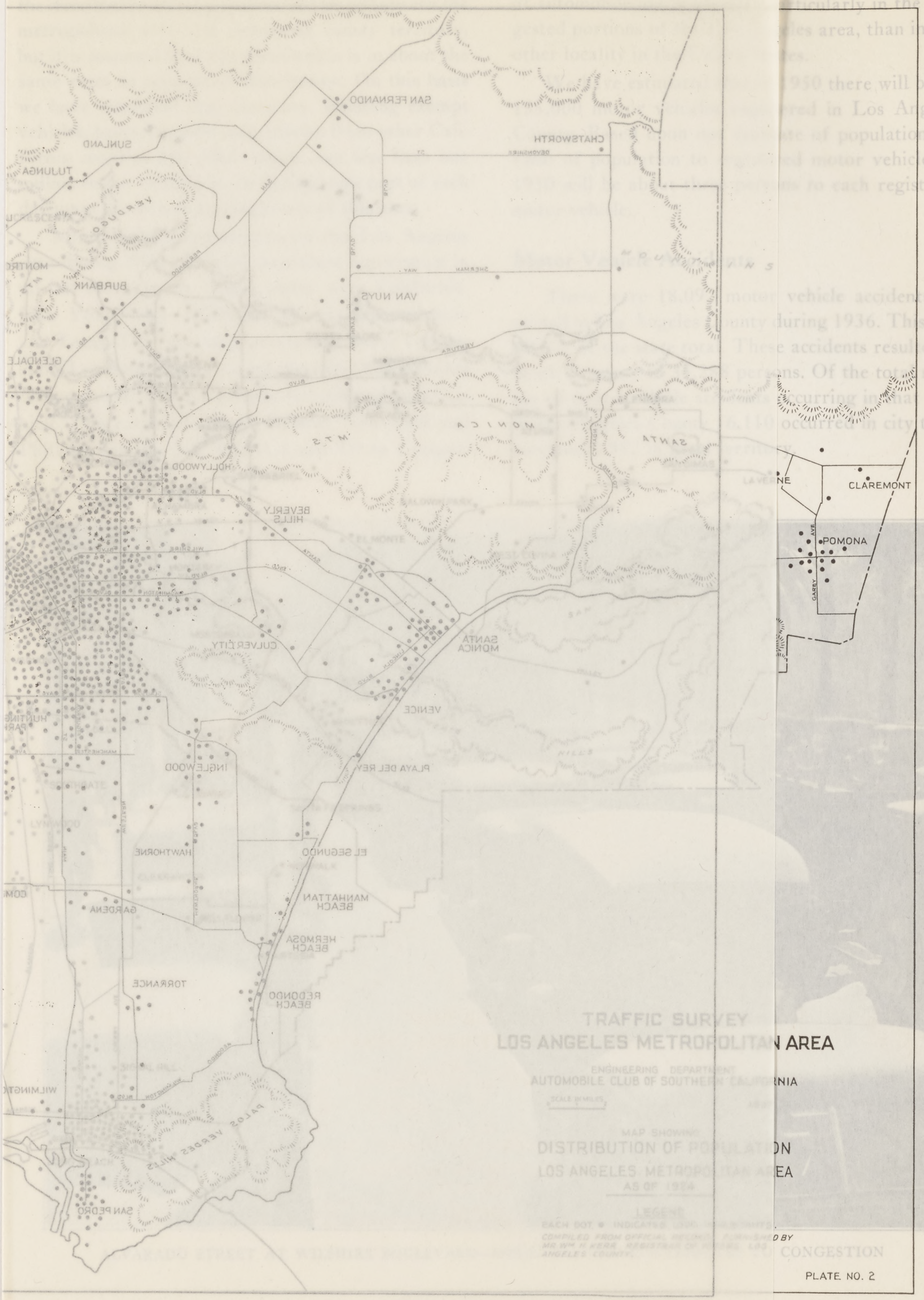

SAN FERNANDO
SUNLAND
TUJUNGA
CHATSWORTH
DEVONSHIRE
SAN FERNANDO
VERDUGO
MONTROSE
BURBANK
VAN NUYS
SHERMAN WAY
VENTURA BLVD
GLENDALE
HOLLYWOOD
MONICA MTS
SANTA MONICA
BEVERLY HILLS
CULVER CITY
VENICE
PLAYA DEL REY
INGLEWOOD
HAWTHORNE
EL SEGUNDO
MANHATTAN BEACH
HERMOSA BEACH
REDONDO BEACH
TORRANCE
GARDENA
WILMINGTON
SAN PEDRO
PALOS VERDES HILLS
CLAREMONT
POMONA
GAREY AVE
TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
MAP SHOWING
DISTRIBUTION OF POPULATION
LOS ANGELES METROPOLITAN AREA
AS OF 1924
LEGEND
EACH DOT ● INDICATES 1,000 INHABITANTS
COMPILED FROM OFFICIAL RECORDS FURNISHED BY MR. WM. H. KERR, REGISTRAR OF VOTERS, LOS ANGELES COUNTY.
CONGESTION
PLATE NO. 2

PLATE 2

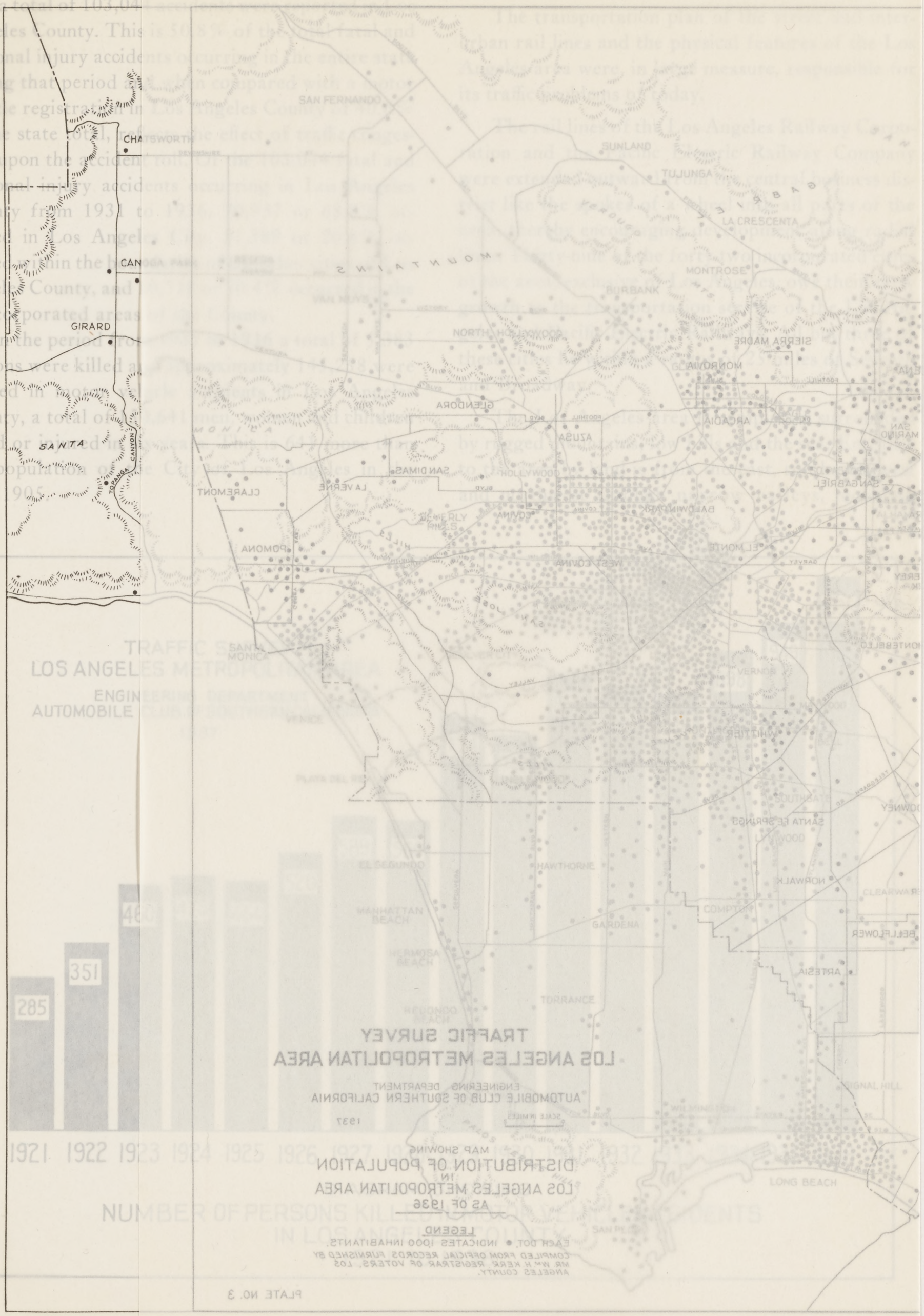
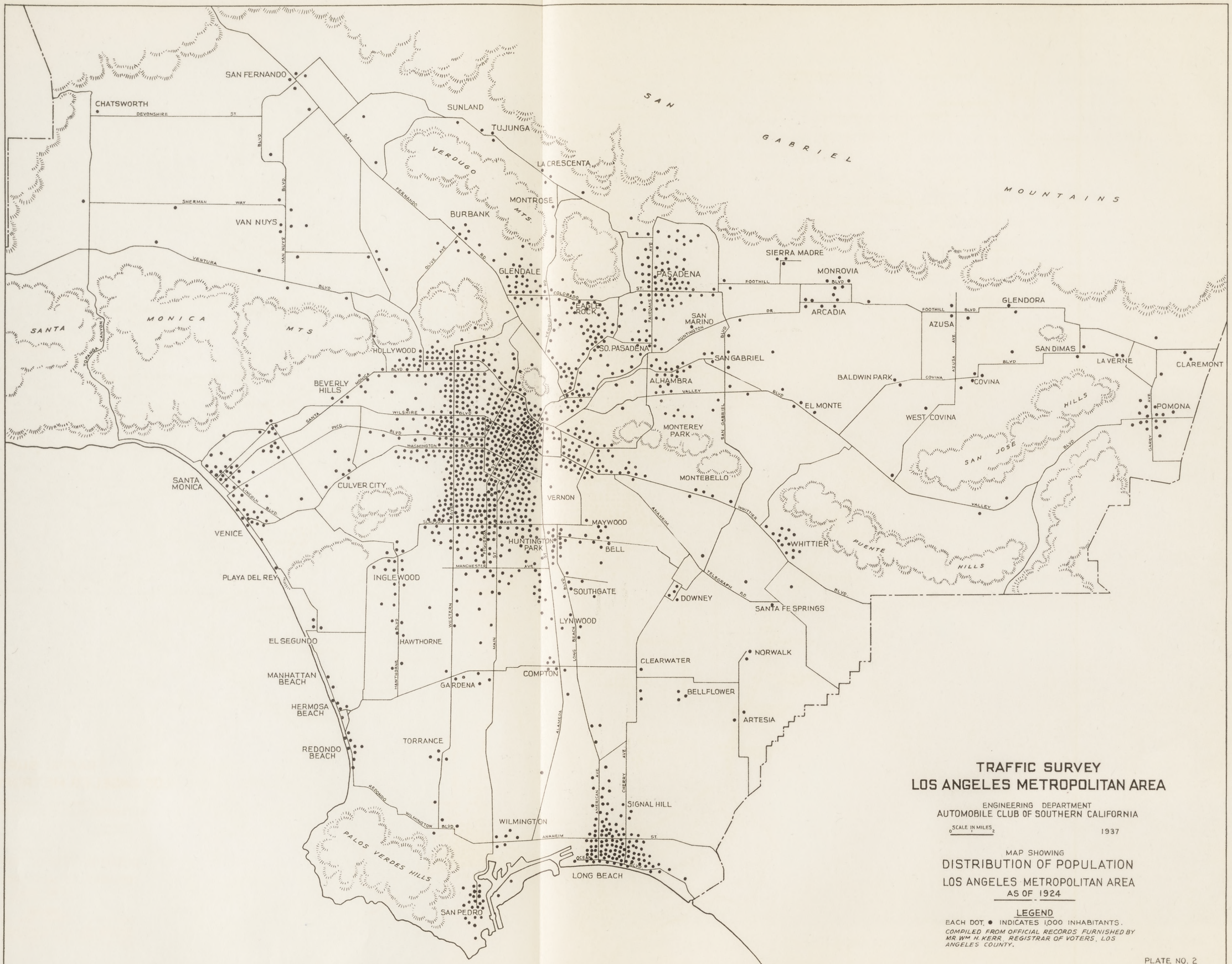

SAN FERNANDO
SUNLAND
TUJUNGA
LA CRESCENTA
MONTROSE
BURBANK
NORTH HOLLYWOOD
GLENDORA
AZUSA
ARCADIA
MONROVIA
SIERRA MADRE
SAN DIMAS
CLAREMONT
LA VERNE
HOLLYWOOD
BALDWIN PARK
COVINA
WEST COVINA
POMONA
EL MONTE
SANTA MONICA
VERNON
WHITTIER
SANTA FE SPRINGS
EL SEGUNDO
HAWTHORNE
NORWALK
MANHATTAN BEACH
GARDENA
COMPTON
HERMOSA BEACH
TORRANCE
REDONDO BEACH
ARTESIA
BELLFLOWER
SIGNAL HILL
LONG BEACH
CHATSWORTH
CANOGA PARK
GIRARD
SANTA
TOPANGA CANYON
285
351
1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932
NUMBER OF PERSONS KILLED OR INJURED IN TRAFFIC ACCIDENTS
IN LOS ANGELES COUNTY
TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937
SCALE IN MILES
MAP SHOWING
DISTRIBUTION OF POPULATION
IN
LOS ANGELES METROPOLITAN AREA
AS OF 1936
LEGEND
EACH DOT • INDICATES 1000 INHABITANTS.
COMPILED FROM OFFICIAL RECORDS FURNISHED BY
MR. W.M. H. KERR, REGISTRAR OF VOTERS, LOS
ANGELES COUNTY.
PLATE NO. 3

PLATE 3



TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

SCALE IN MILES 0 1 2

1937

MAP SHOWING
DISTRIBUTION OF POPULATION
LOS ANGELES METROPOLITAN AREA
AS OF 1924

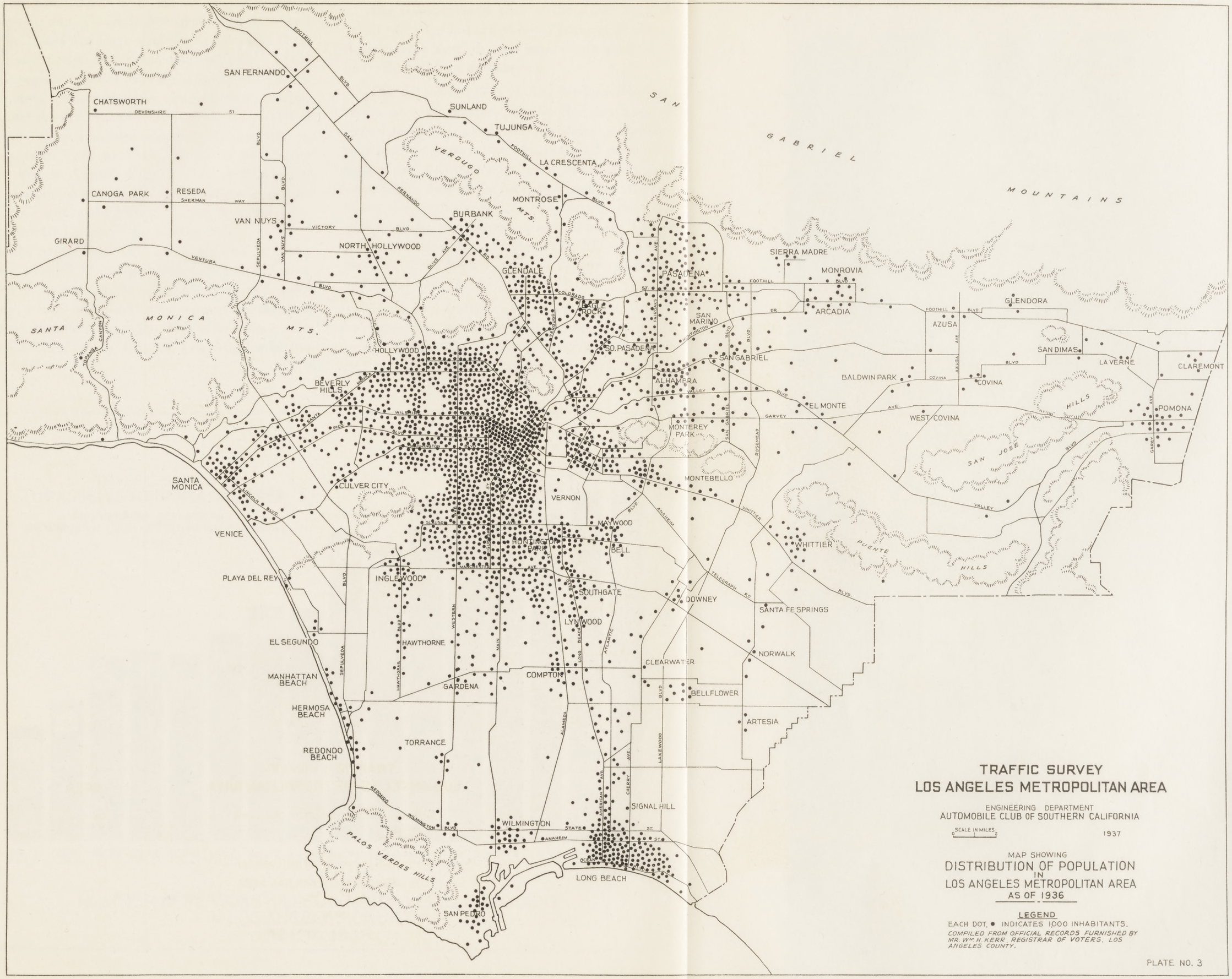
LEGEND

EACH DOT ● INDICATES 1,000 INHABITANTS.

COMPILED FROM OFFICIAL RECORDS FURNISHED BY MR. WM. H. KERR, REGISTRAR OF VOTERS, LOS ANGELES COUNTY.

PLATE NO. 2

PLATE 2



TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

SCALE IN MILES 0 1

1937

MAP SHOWING
DISTRIBUTION OF POPULATION
IN
LOS ANGELES METROPOLITAN AREA
AS OF 1936

LEGEND

EACH DOT, ● INDICATES 1000 INHABITANTS.

COMPILED FROM OFFICIAL RECORDS FURNISHED BY MR. WM. H. KERR, REGISTRAR OF VOTERS, LOS ANGELES COUNTY.

PLATE NO. 3

PLATE 3

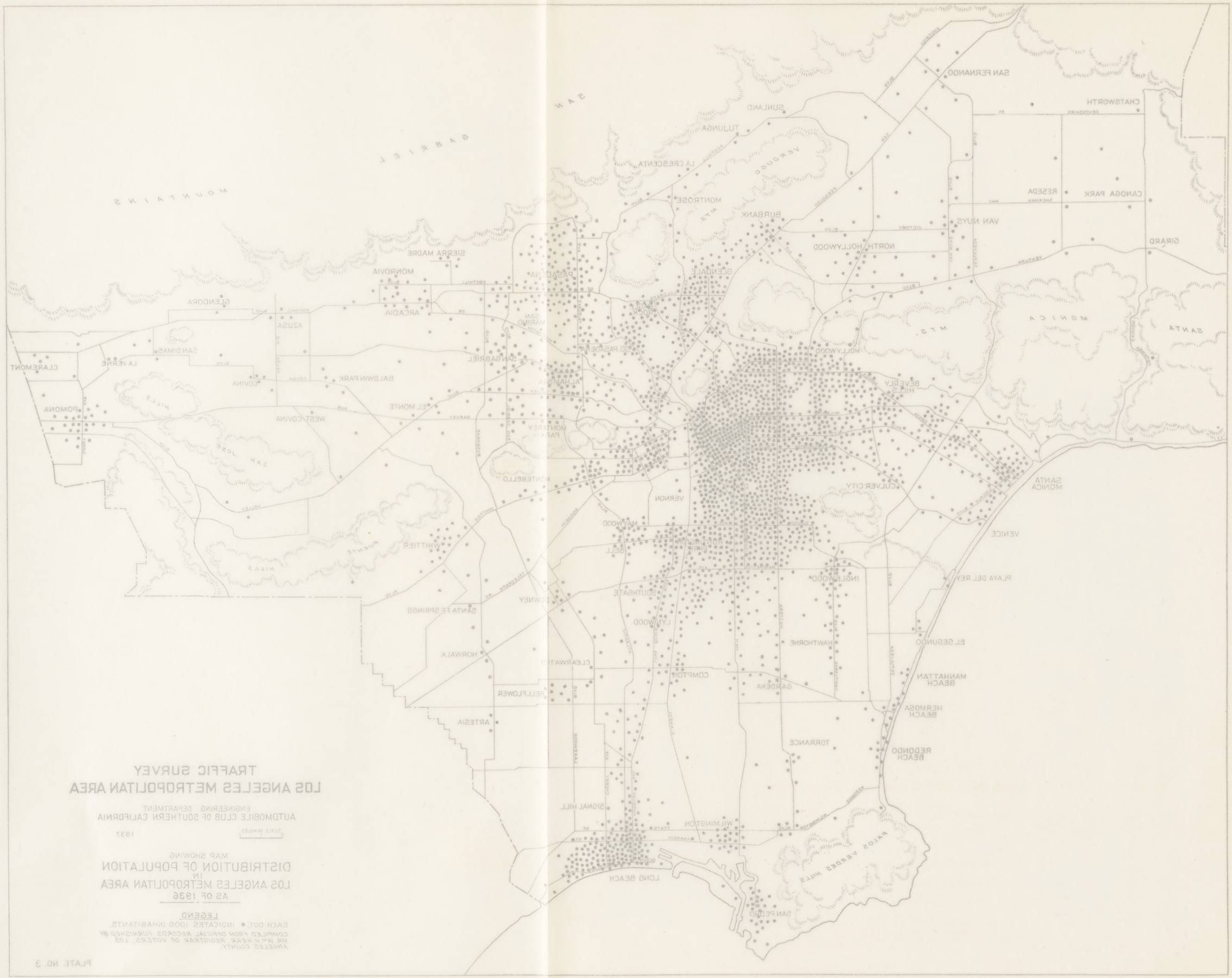

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937
MAP SHOWING
DISTRIBUTION OF POPULATION
IN
LOS ANGELES METROPOLITAN AREA
AS OF 1936
LEGEND
EACH DOT ● INDICATES 1000 INHABITANTS.
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PLATE NO. 3
SAN GABRIEL MOUNTAINS
SIERRA MADRE
MONROVIA
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SAN DIMAS
CLAREMONT
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BALDWIN PARK
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MONTEBELLO
WHITTIER
HILLS
SAN JOSE
VALLEY
SUNLAND
TUJUNGA
LA CRESCENTA
MONTROSE
VERDUGO MTS.
BURBANK
GLENDALE
SAN FERNANDO
CHATSWORTH
RESEDA
CANOGA PARK
VAN NUYS
GIRARD
NORTH HOLLYWOOD
HOLLYWOOD
BEVERLY HILLS
SANTA MONICA MTS.
SANTA MONICA
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BELLFLOWER
NORWALK
ARTESIA
SANTA FE SPRINGS
DOWNEY
SIGNAL HILL
WILMINGTON
LONG BEACH
SAN PEDRO
PALOS VERDES HILLS

PLATE 3

In the six year period from 1931 to 1936 inclusive, a total of 103,044 accidents were reported in Los Angeles County. This is 50.8% of the total fatal and personal injury accidents occurring in the entire state during that period and when compared with a motor vehicle registration in Los Angeles County of 40.6% of the state total, reflects the effect of traffic congestion upon the accident toll. Of the 103,044 fatal and personal injury accidents occurring in Los Angeles County from 1931 to 1936, 70,937 or 68.8% occurred in Los Angeles City, 21,389 or 20.8% occurred within the boundaries of the other cities of Los Angeles County, and 10,718 or 10.4% occurred in the unincorporated areas of the County.

In the period from 1931 to 1936 a total of 5,383 persons were killed and approximately 145,258 were injured in motor vehicle accidents in Los Angeles County, a total of 150,641 men, women and children killed or injured in six years. This is 641 more than the population of the City of Los Angeles in the year 1905.

Growth of the Los Angeles Traffic Problem

The transportation plan of the street and interurban rail lines and the physical features of the Los Angeles area were, in large measure, responsible for its traffic problems of today.

The rail lines of the Los Angeles Railway Corporation and the Pacific Electric Railway Company were extended outward from the central business district like the spokes of a wheel into all parts of the area, thereby encouraging development along radial lines. Thirty-nine of the forty-two incorporated cities of the area, exclusive of Los Angeles, owe their early growth to the transportation service of the Los Angeles and Pacific Electric Railways. All but three of these cities lie within a radius of 25 miles of Seventh and Broadway.

The Los Angeles area is completely surrounded by rugged mountains, low hills and the sea. Entrance to the area by land is from the east, southeast, west and northwest through narrow valleys, mountain

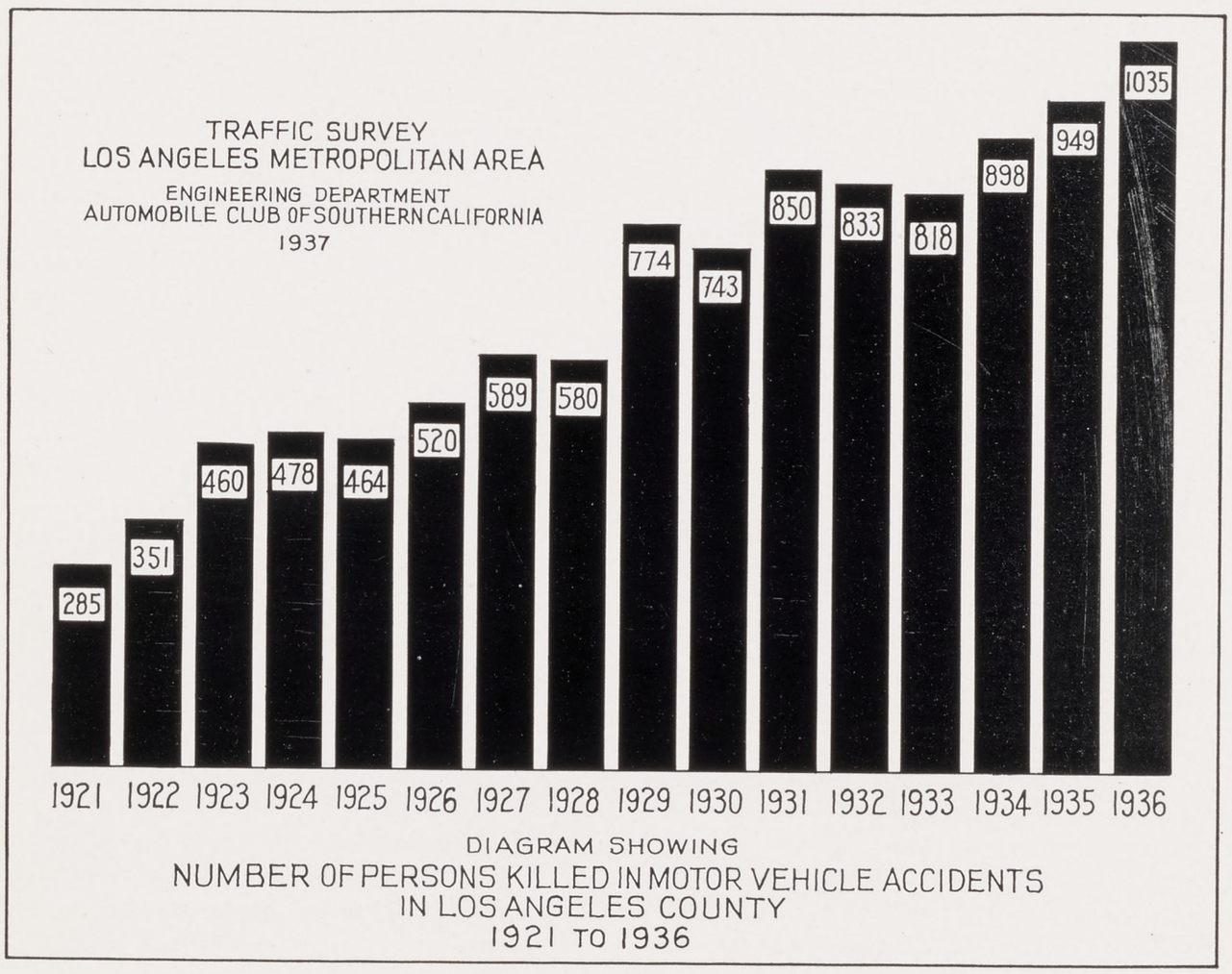


DIAGRAM SHOWING
NUMBER OF PERSONS KILLED IN MOTOR VEHICLE ACCIDENTS
IN LOS ANGELES COUNTY
1921 TO 1936

passes and along narrow benches bordering the sea. Within the area are many low ranges and hills and other physical barriers limiting lines of communication to, and in most cases widely separated, natural passes.

The social and business life of the inhabitants of the Los Angeles area was first adjusted to rail transportation. The early use of the automobile therefore was in large part competitive and occasioned a direct loss to the rail lines. This is evidenced by the rapid falling off in number of passengers carried by the rail lines since 1924, the year in which the automobile came to be recognized by most observers as a transportation vehicle rather than a luxury.

Early street and highway development in general followed the rail lines, skirting or passing through physical barriers, but always converging toward a common center. Consequently, and naturally, early automobile travel in the metropolitan area was along somewhat devious but radial lines, converging toward, and terminating in, the central business district. This characteristic of automobile travel in the Los Angeles area was clearly shown by a survey made during the early days of automobile development.

The Automobile Club of Southern California in June 1920 made a check of all automobiles and trucks entering the City of Los Angeles between the hours of 8 A.M. and 6 P.M. The total number of vehicles entering during this period was 21,664. From an analysis of the data secured through this check it was determined that the immediate destination of 97% of the total was the central business district.

The population of the Los Angeles area more than doubled during the decade 1920-1930. The increase was 135.84%, or more than one and a quarter million. During this decade, also, there was a phenomenal growth in manufacturing and commerce. From a position of 27th place among the counties of the United States in value of manufactured goods in 1919, Los Angeles County had moved to sixth place in 1930. According to the United States Census, manufacturing in 1919 employed 61,665 people and the value of manufactured goods was $417,808,804. By 1929 the number employed had increased to 105,859 and the value of maunfactured goods to $1,176,775,207, an increase of 71.6% and 181.6% respectively.

Tonnage passing through the Port of Los Angeles is an index to the increase in commerce. This tonnage increased from 3,528,280 tons during 1919 to 25,-920,159 tons during 1930. During this period, also, oil was discovered in the Los Angeles basin. The growth of the motion picture industry was stimulated by the development of talking pictures. Street and highway use increased from about nine hundred million vehicle miles to about five billion vehicle miles annually.

The rapid growth in the popularity of the automobile as a unit for individual transportation discouraged the extension of rail transportation lines. As new districts were developed to accommodate the rapidly increasing population, the area became more and more dependent upon the automobile for transportation.

Rail transportation forces centralization by confining business, industrial and residential development to areas served by such lines. Individual transportation, on the other hand, encourages decentralization, which in turn increases congestion and street and highway hazard. The widely scattered and intermingled shopping, industrial, cultural and residential districts of metropolitan Los Angeles, a condition for which the automobile is directly responsible, make the area peculiarly and vitally dependent upon the automobile for the major part of its transportation service. Today, at least 80% of the daily transportation requirements of the area is supplied by the automobile.

The 1937 Traffic Survey

A knowledge of the number of vehicles passing a given point on a given street or highway during a given period of time is of interest but in itself of little value to the development of an efficient transportation system. The essential information to be obtained is where does each vehicle come from, where is it going and are the transit and terminal facilities adequate for efficient transportation. Obviously, the collection of these data becomes more and more difficult as traffic density increases until finally it becomes necessary to deal with mass movement and component parts rather than with the individual vehicle. Under this method, origin, destination and other required data are obtained through cordon counts and samples selected at random throughout the area.

The traffic survey made by the Automobile Club of Southern California in 1920, which it is believed was the first automobile traffic survey to be made in the United States, established the boundaries of two checking districts. The first, or inner district, designated as the central business district, was bounded by Figueroa, Sunset, Maple and Tenth, and the second, or residential district, included the built up section of

the city proper. The volume of traffic entering and leaving these districts and the basic data for which the origin and destination of traffic was determined, was secured through checking stations located on the boundaries of these districts.

In the 1929 survey the central business district was extended south to Washington Boulevard and east to San Pedro Street and three additional districts established. These districts, which were used in the 1937 survey, are designated and bounded as follows:

District Number 1. The central business district, bounded on the north by Sunset Boulevard, on the east by San Pedro Street, on the south by Washington Boulevard and on the west by Figueroa Street.

District Number 2. The outer congested district, bounded on the north and east by the Los Angeles River, on the south by Jefferson Street and on the west by Hoover and Alvarado Streets.

District Number 3. The residential district, bounded on the north by Los Feliz Boulevard and a line extending from Los Feliz Boulevard at the Los Angeles River bridge southeasterly to the intersection of Garvey Avenue and Atlantic Boulevard, on the east by Atlantic Boulevard, on the south by Slauson Avenue and on the west by Arlington and Van Ness Avenues.

District Number 4. The surburban district, bounded on the north by a line extending easterly from a point near Roscoe to an intersection with the north extension of Rosemead Boulevard, on the east by Rosemead Boulevard, on the south by Compton Boulevard and Redondo Beach Boulevard, and on the west by Redondo Road and a line extending northerly from its intersection with Manchester Avenue to a point on Laurel Canyon Boulevard west of Roscoe.

District Number 5. The metropolitan area, or the coastal plain of Los Angeles County, bounded on the north by the San Gabriel Mountains, on the east by the Los Angeles County line, on the south and west by the Pacific Ocean, and on the west by the Los Angeles City limits.

Diagrams of these districts, showing the number of motor vehicles entering and leaving each, between the hours of 6 A.M. and 10 P.M. of an average weekday, as determined by the 1929 and 1937 surveys, are shown in Plates No. 4 to No. 9 inclusive.

The number of motor vehicles entering and leaving District No. 1 in 1929 was 531,474, and in 1936, 573,008, an increase of 7.8%.

The number of motor vehicles entering and leaving District No. 2 in 1929 was 618,721 and in 1936, 727,237, an increase of 17.5%.

The number of motor vehicles entering and leaving District No. 3 in 1930 was 666,218, and in 1937, 854,254, an increase of 28.2%.

The number of motor vehicles entering and leaving District No. 4 in 1930 was 303,181, and in 1937, 463,591, an increase of 52.9%.

The number of motor vehicles entering and leaving District No. 5, or the metropolitan area, as herein designated, in 1930 was 57,930, and in 1937, 71,322, an increase of 23.1%.

The increase in number of vehicles entering and leaving District No. 1 in 1936 over 1929 from the north was 6.5%, from the east 3.2%, from the south 14.4%, and from the west 8.8%. The increase in District No. 2 from the north was 25.9%, from the east 30.1%, from the south 9.9% and from the west 15.9%. The increase in District No. 3 from the north was 66.7%, from the east 40.1%, from the south 17.8%, and from the west 20.6%. The increase in District No. 4 from the north was 47.8%, from the east 58.1%, from the south 18.7% and from the west 68.8%. The increase in the metropolitan area in 1937 over 1930 was from the east and southeast 17.6%, and from the west and northwest 54.5%.

The number of vehicles remaining in each district, or the difference between the number entering and the number leaving, at the close of the check at 10 P.M. was for District No. 1, 14,476, District No. 2, 5,799, District No. 3, 9,432, District No. 4, 589, and District No. 5, 80.

The number of vehicles entering the central business district in each hour exceeded the number leaving in the corresponding hour from 6 A.M. to 2 P.M. at which time there had accumulated in the district 46,156 vehicles. At noon the accumulation was 44,497. The number of vehicles in the central district at noon on the day of the count, as determined by an aerial photograph and a ground count, was 53,456. The difference of 8,959 we assume to be made up of vehicles which had accumulated in the district prior to 6 A.M. and those vehicles which are used exclusively within the district.

Of the total number of vehicles accumulated in the district, as determined by the cordon count, 32,000 occurred between the hours of 6 A.M. and 9 A.M. It is interesting to note in this connection that it is estimated 80% of the purchases in the retail shopping district are made between the hours of 11 A.M. and 4 P.M.

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

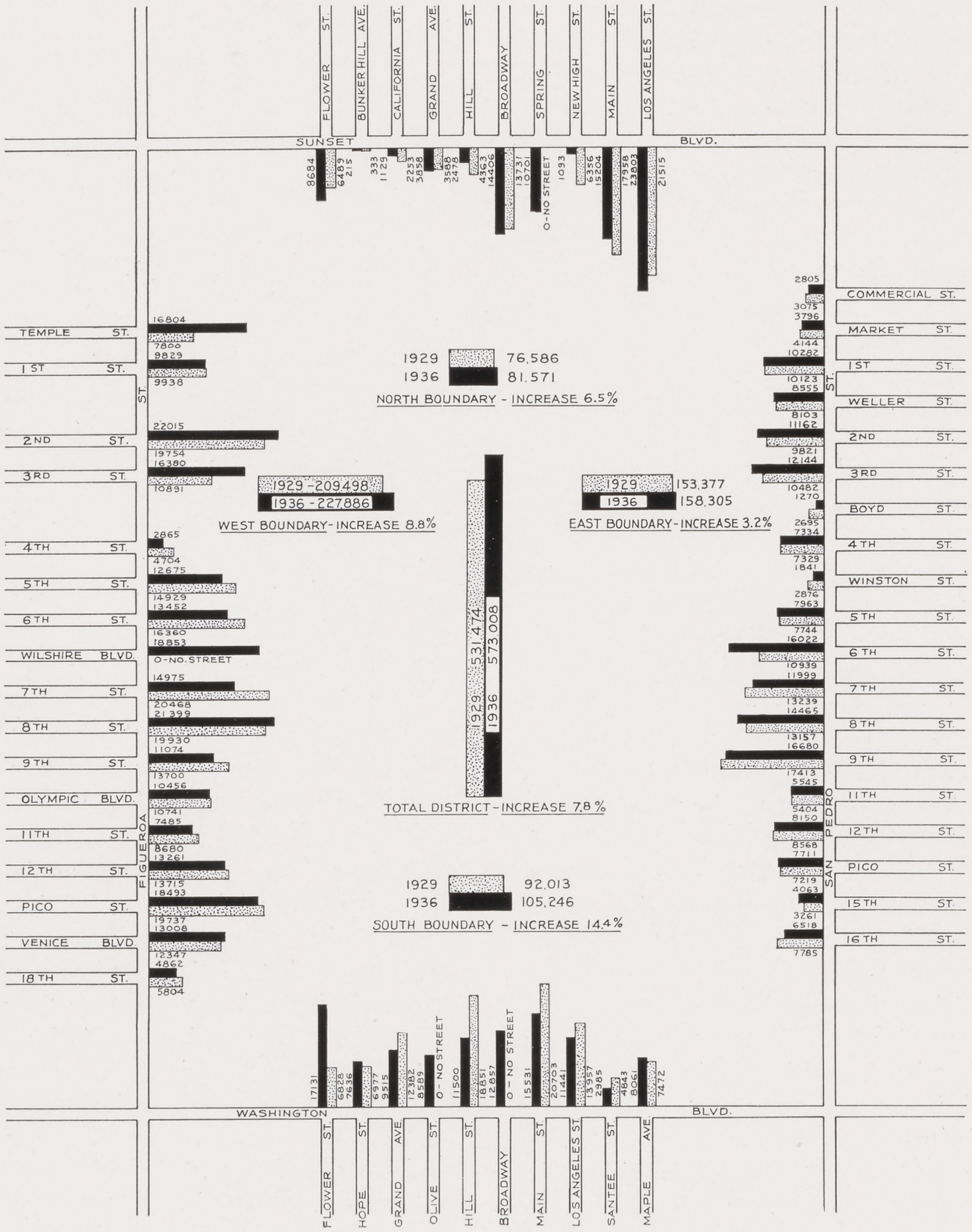


DIAGRAM SHOWING
NUMBER OF MOTOR VEHICLES ENTERING AND LEAVING
THE CENTRAL BUSINESS DISTRICT
(CORDON COUNT DISTRICT NO. 1)
ON AN AVERAGE WEEK DAY FROM 6A.M. TO 10 P.M.
IN 1929 AND IN 1936

TRAFFIC COUNTS BY AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

LEGEND
1929 COUNTS
1936 COUNTS

PLATE NO. 4

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

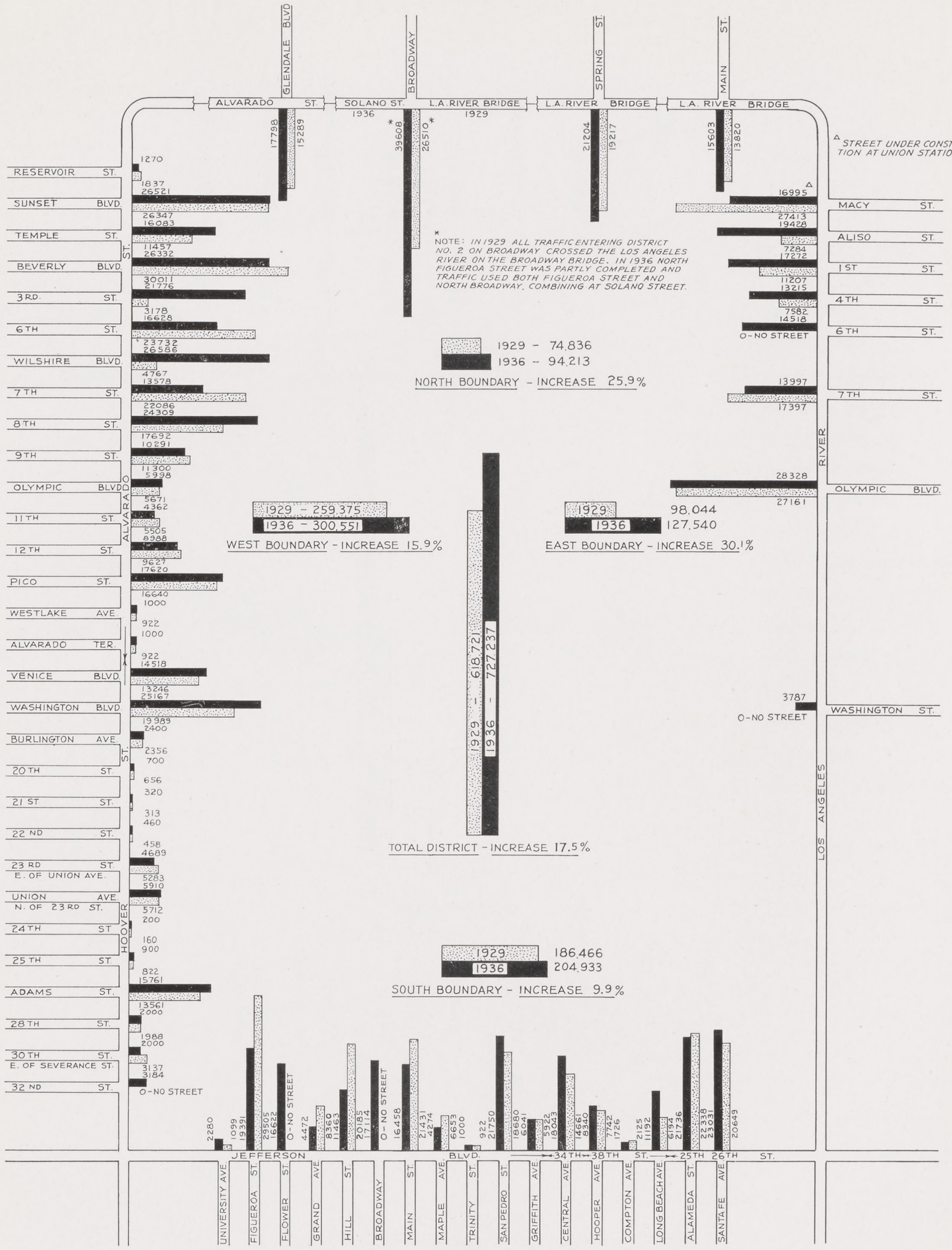


DIAGRAM SHOWING
NUMBER OF MOTOR VEHICLES ENTERING AND LEAVING THE OUTER CONGESTED DISTRICT
(CORDON COUNT DISTRICT NO. 2)
ON AN AVERAGE WEEK DAY FROM 6 A.M. TO 10 P.M.
IN 1929 AND IN 1936

LEGEND
1929 COUNTS
1936 COUNTS

TRAFFIC COUNTS BY AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

PLATE NO. 5

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

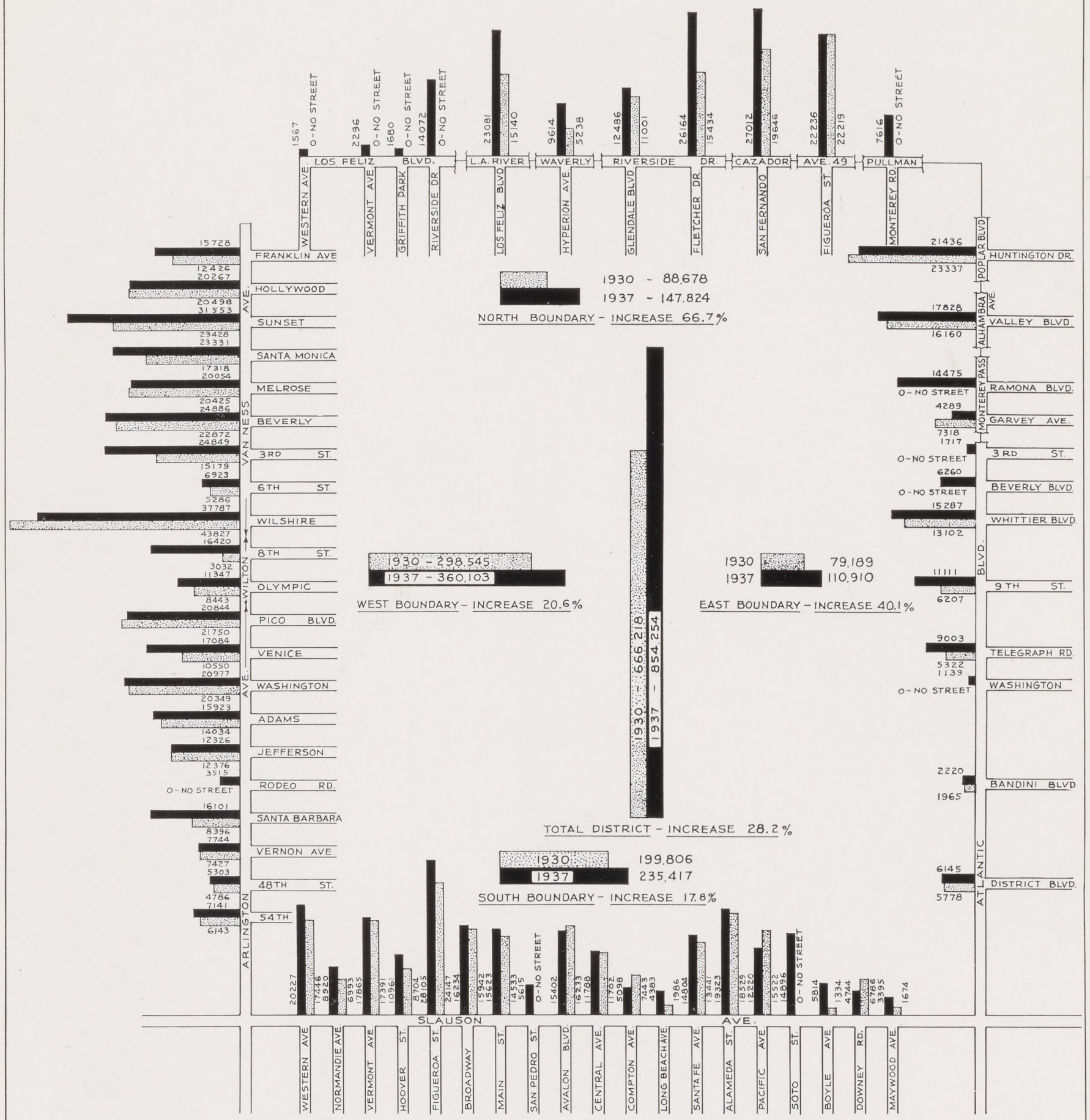


DIAGRAM SHOWING
NUMBER OF MOTOR VEHICLES ENTERING AND LEAVING
THE RESIDENTIAL DISTRICT
(CORDON COUNT DISTRICT NO. 3)
ON AN AVERAGE WEEK DAY FROM 6 A.M. TO 10 P.M.
IN 1930 AND IN 1937

LEGEND
1930 COUNTS
1937 COUNTS

TRAFFIC COUNTS BY AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

PLATE NO. 6

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

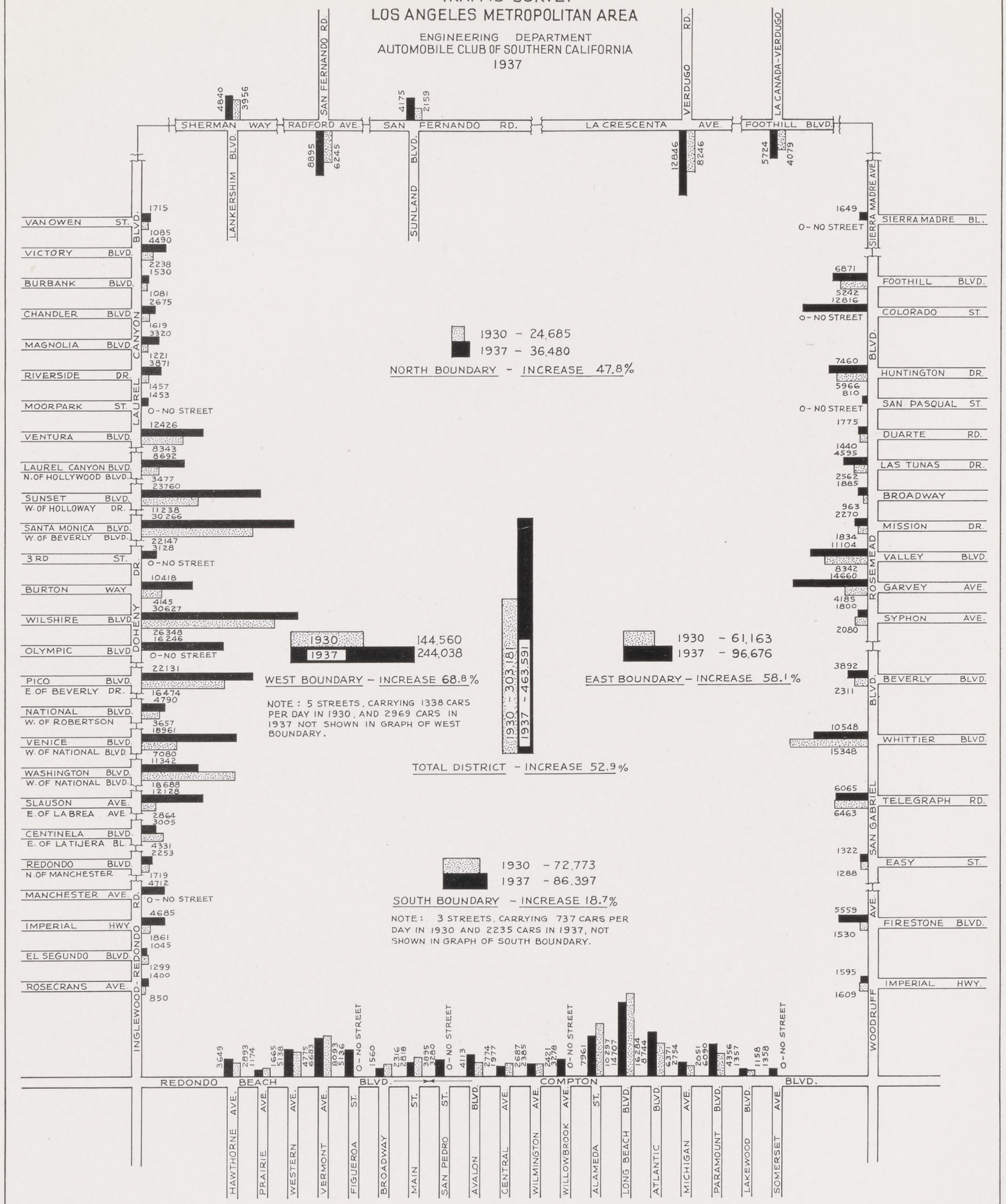


DIAGRAM SHOWING
NUMBER OF MOTOR VEHICLES ENTERING AND LEAVING THE SUBURBAN DISTRICT
(CORDON COUNT DISTRICT NO. 4)
ON AN AVERAGE WEEK DAY FROM 6 A.M. TO 10 P.M.
IN 1930 AND IN 1937

LEGEND
1930 COUNTS
1937 COUNTS

TRAFFIC COUNTS BY AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

PLATE NO. 7

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

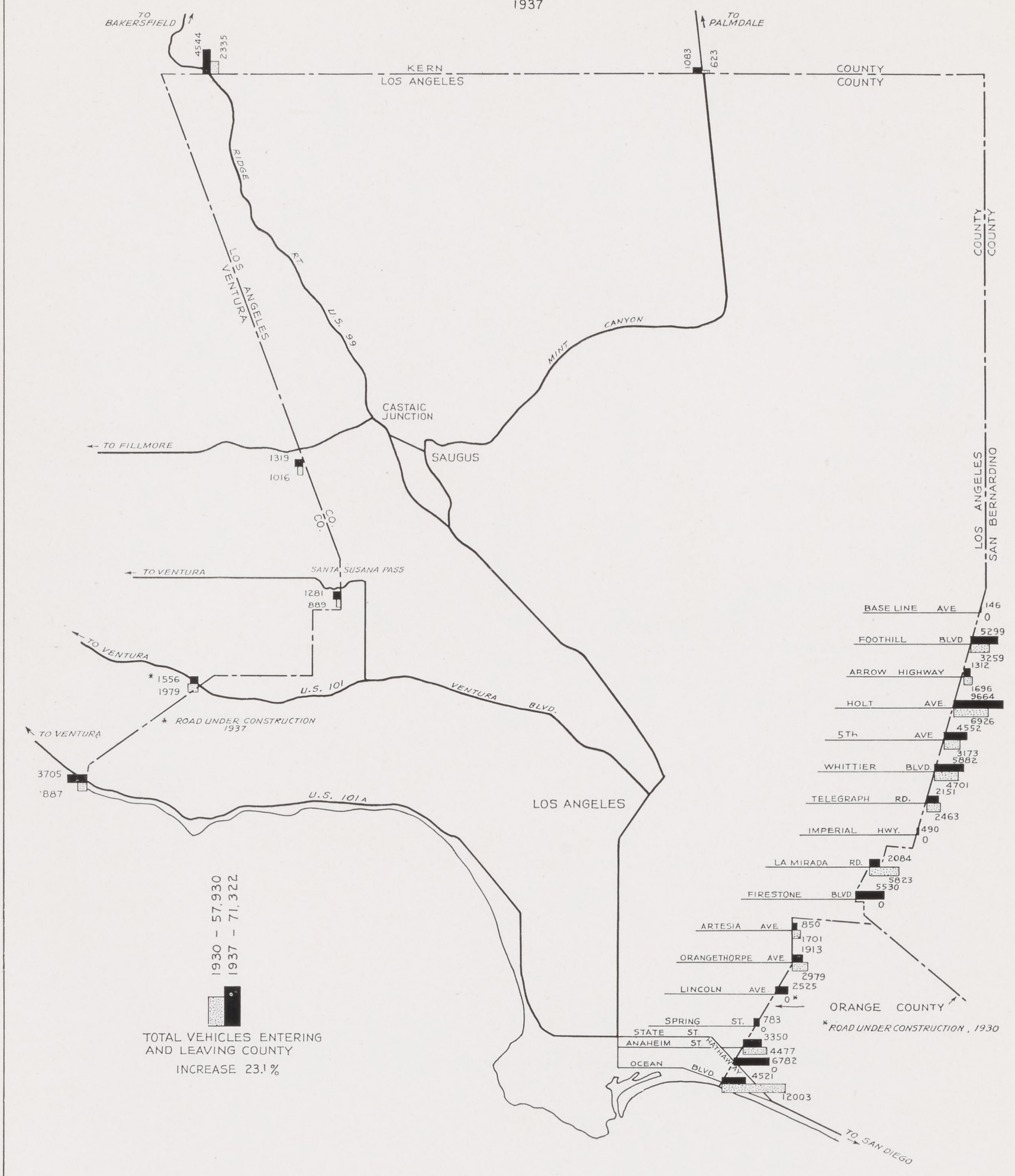


DIAGRAM SHOWING
NUMBER OF MOTOR VEHICLES ENTERING AND LEAVING
LOS ANGELES COUNTY
ON AN AVERAGE WEEK DAY FROM 6A.M. TO 10P.M.
IN 1930 AND IN 1937

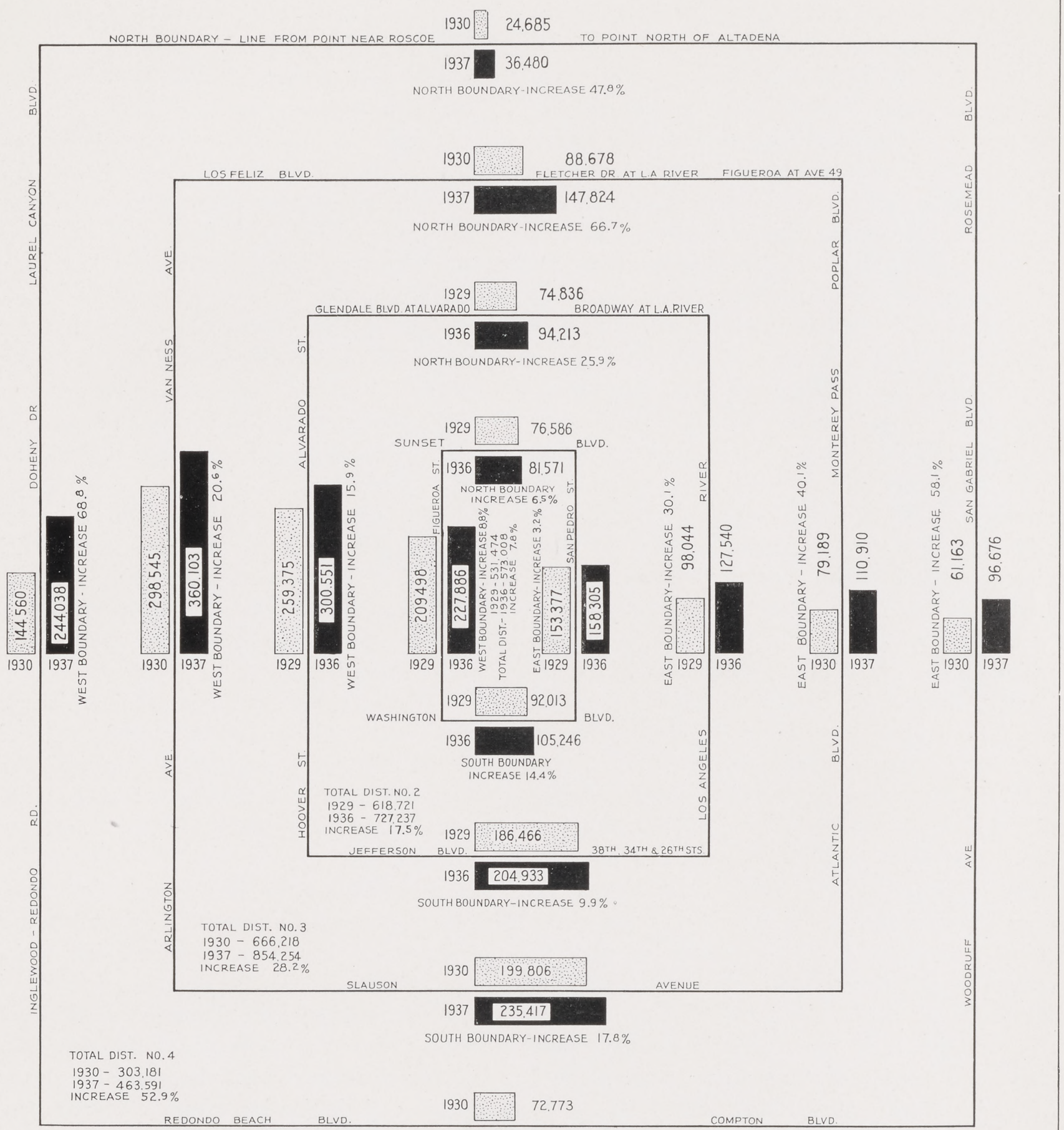
LEGEND
1930 COUNTS
1937 COUNTS

TRAFFIC COUNTS BY AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA IN SEPT. 1930 AND MAR. 1937
AND BY STATE DIVISION OF HIGHWAYS IN JULY 1930 AND JULY 1936

PLATE NO. 8

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937



NOTE: COUNTY BOUNDARY TRAFFIC CHECKS NOT SHOWN - SEE PLATE NO. 8

TOTAL TRAFFIC AT COUNTY BOUNDARY:
1930 - 57,930
1937 - 71,322
INCREASE 23.1%

DIAGRAM SHOWING
SEVEN YEAR INCREASE IN NUMBER OF MOTOR VEHICLES CROSSING
THE BOUNDARIES OF THE VARIOUS CORDON COUNT DISTRICTS
IN THE
LOS ANGELES METROPOLITAN AREA
ON AN AVERAGE WEEK DAY FROM 6A.M. TO 10 P.M.

LEGEND
1929-30 COUNTS
1936-37 COUNTS
BOUNDARIES OF CORDON COUNT DISTRICTS

BASED ON TRAFFIC COUNTS BY AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
AND THE STATE DIVISION OF HIGHWAYS
1929 COUNTS REPEATED IN 1936 – 1930 COUNTS REPEATED IN 1937

PLATE NO. 9

In addition to the cordon count districts above referred to, the area was divided into four quadrants, using Figueroa Street as the north-south axis and Olympic Boulevard and East 9th Street as the east-west axis. The total number of vehicles crossing the north-south axis outside the central business district, including Washington and Sunset Boulevards, during the period 6 A.M. to 10 P.M. was 315,976. The total number crossing the east-west axis during the same period, including Figueroa and San Pedro Streets, was 387,040. The total east-west, north-south movement outside of the central business district was 703,016 vehicles. The average daily number of vehicles crossing Figueroa Street on Sunset Boulevard was 25,844. The average number crossing Figueroa Street on Washington Boulevard was 31,099. The average number of vehicles crossing Olympic Boulevard on Figueroa Street during an average weekday and between the hours 6 A.M. and 10 P.M. was 25,234. The average number crossing Olympic Boulevard on San Pedro Street on an average weekday between the hours 6 A.M. and 10 P.M. was 23,509. The highest number crossing Olympic Boulevard was 26,656 on Western Avenue, the next highest being 26,472 on Alameda Street. The highest number crossing Figueroa Street was 31,099 on Washington Boulevard, the next highest being 25,844 on Sunset Boulevard. The total number crossing Olympic Boulevard west of and including Figueroa Street during the period above mentioned was 242,342. The total number crossing Olympic Boulevard and East Ninth Street east of and including San Pedro Street was 144,698. The total number of vehicles crossing Figueroa Street north of and including Sunset Boulevard during the period above mentioned was 89,434. The total number crossing Figueroa Street south of and including Washington Boulevard was 226,542.

The maximum flow of traffic into each of the cordon count districts occurred between the hours 8 A.M. and 9 A.M. and was about 10.4% of the 16 hour total. The maximum flow outward from each of the districts occurred between the hours of 5 P.M. and 6 P.M. and was about 12.6% of the 16 hour total. The 16 hour flow, that is, the total movement between the hours 6 A.M. and 10 P.M. was about 90% of the 24 hour total. Of the total movement between 10 P.M. and 6 A.M., 79% occurred between the hours 10 P.M. and 1 A.M. For the state as a whole, as determined by the State Division of Highways, 87.3% of the 24 hour movement occurs between the hours of 6 A.M. and 10 P.M. Of the total state movement between the hours of 10 P.M. and 6 A.M., 60% occurs between the hours of 10 P.M. and 1 A.M.

The total number of inbound vehicles entering District No. 1 during the hour 8 to 9 A.M. was 30,517. Outbound during the hour 5 to 6 P.M. was 35,093. The maximum in and out movement occurred during the hour 5 to 6 P.M. and was 54,501 vehicles.

The total number of inbound vehicles entering District No. 2 during the hour 8 to 9 A.M. was 38,078. The total outbound during the hour 5 to 6 P.M. was 45,328. The maximum in and out movement occurred during the hour 5 to 6 P.M. and was 69,544 vehicles.

The total number of inbound vehicles entering District No. 3 during the hour 8 to 9 A.M. was 44,864. The total outbound during the hour 5 to 6 P.M. was 53,080. The maximum in and out movement occurred during the hour 5 to 6 P.M. and was 81,612 vehicles.

The total number of inbound vehicles entering District No. 4 during the hour 8 to 9 A.M. was 24,112. The total outbound during the hour 5 to 6 P.M. was 29,090. The maximum in and out movement occurred during the hour 5 to 6 P.M. and was 44,424 vehicles.

The total number of inbound vehicles entering District No. 5 during the hour 8 to 9 A.M. was 3,709. The total outbound during the hour 5 to 6 P.M. was 4,776. The maximum in and out movement occurred during the hour 5 to 6 P.M. and was 7,129 vehicles.

In addition to the traffic counts, both moving and parked cars were sampled throughout the metropolitan area to supplement data on origin and destination of vehicles. The analysis of these data indicate that the relation which formerly existed between the home and place of occupation has almost, if not completely, disappeared and that there are few points of origin and destination common to any appreciable number of vehicles found in any section of the Los Angeles area.

A number of locations where samples were taken of parked automobiles were noted on a map of the metropolitan area and a line drawn from these parking locations to the residences of the owners of each automobile observed, as illustrated on Plate No. 10. This is indicative of the innumerable traffic conflicts resulting from these intersecting paths of travel.

A large number of samples were taken from auto-

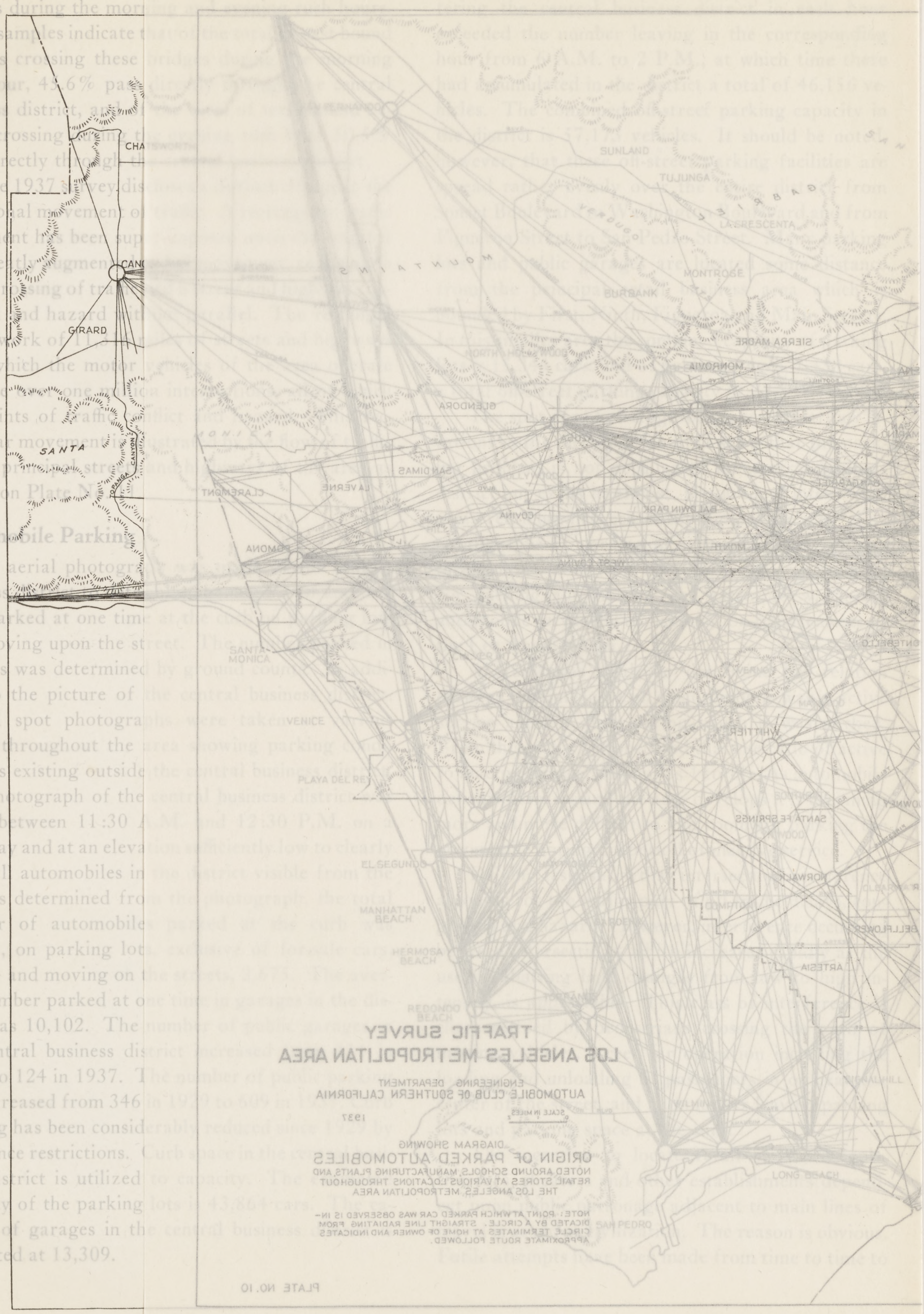

SUNLAND
TUJUNGA
LA CRESCENTA
MONTROSE
BURBANK
GLENDORA
SAN DIMAS
LA VERNE
CLAREMONT
COVINA
POMONA
SANTA MONICA
VENICE
PLAYA DEL REY
EL SEGUNDO
MANHATTAN BEACH
HERMOSA BEACH
REDONDO BEACH
TORRANCE
WHITTIER
SANTA FE SPRINGS
NORWALK
COMPTON
ARTESIA
LONG BEACH
SAN PEDRO
SIERRA MADRE
MONROVIA
CHA
CANO
GIRARD
SANTA
TO PANOGA CANYON
TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937
DIAGRAM SHOWING
ORIGIN OF PARKED AUTOMOBILES
NOTED AROUND SCHOOLS, MANUFACTURING PLANTS, AND
RETAIL STORES AT VARIOUS LOCATIONS THROUGHOUT
THE LOS ANGELES METROPOLITAN AREA
NOTE: POINT AT WHICH PARKED CAR WAS OBSERVED IS IN-
DICATED BY A CIRCLE. STRAIGHT LINE RADIATING FROM
CIRCLE TERMINATES AT HOME OF OWNER AND INDICATES
APPROXIMATE ROUTE FOLLOWED.
PLATE NO. 10

PLATE 10

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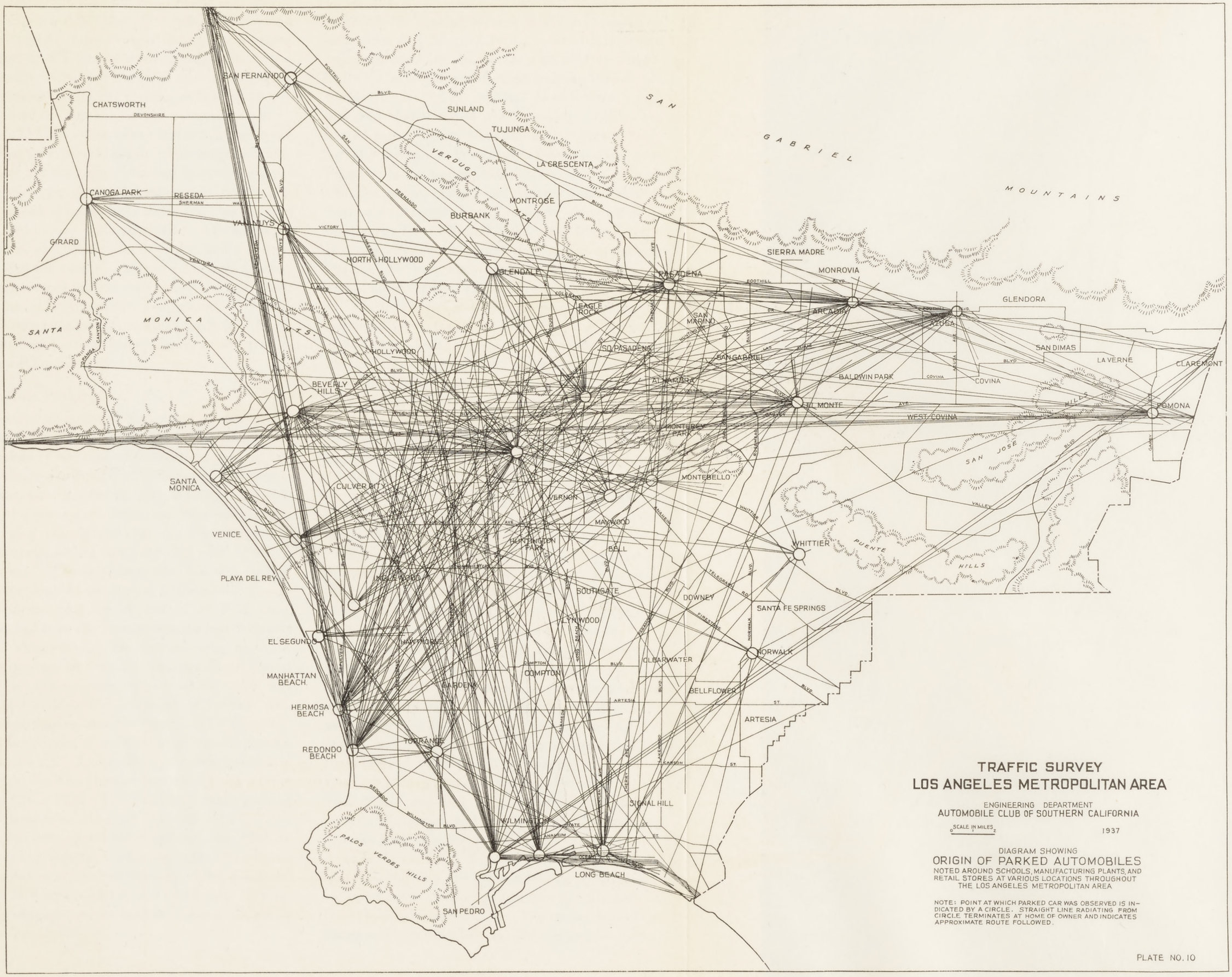


TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

SCALE IN MILES 0 1 2

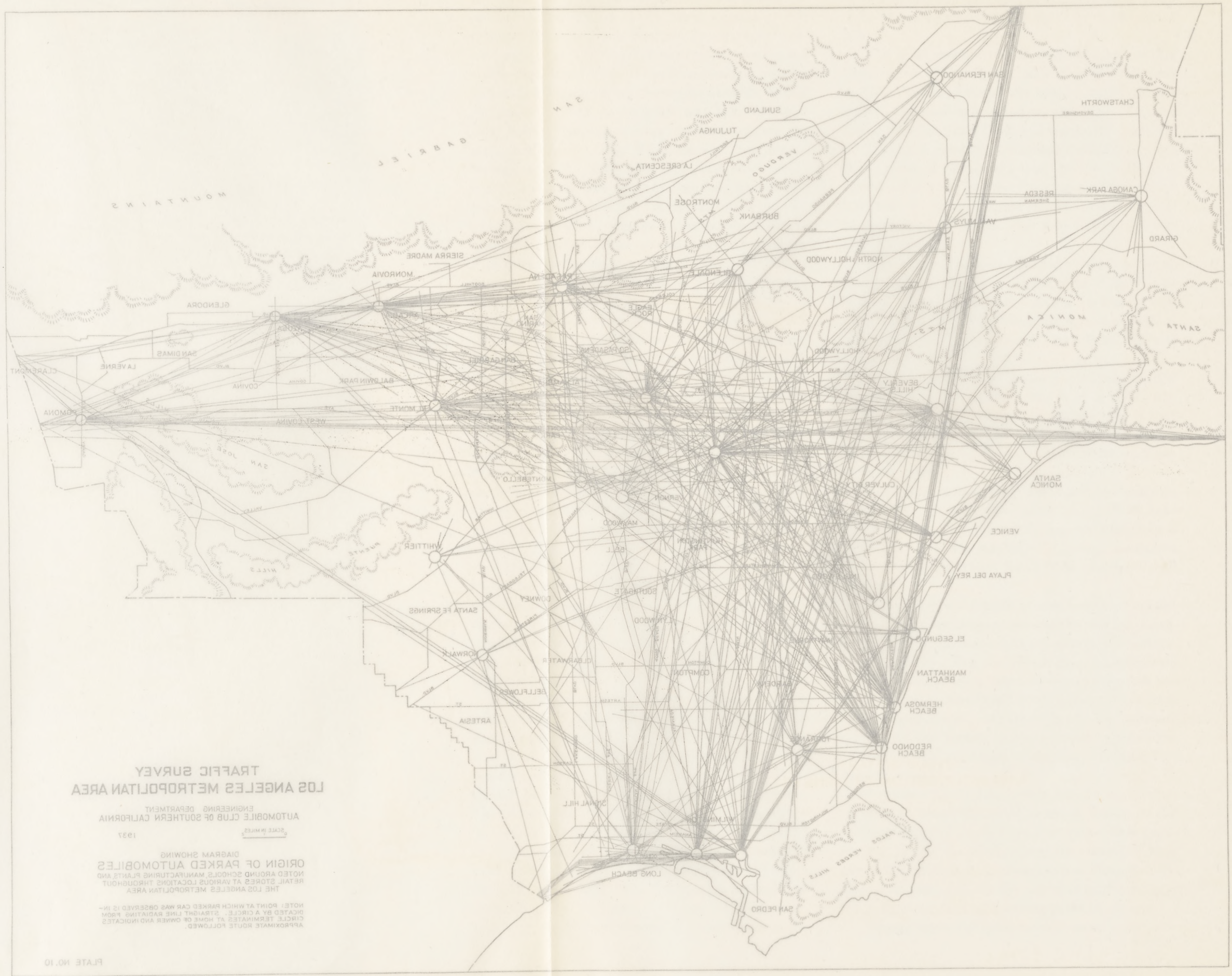
1937

DIAGRAM SHOWING
ORIGIN OF PARKED AUTOMOBILES
NOTED AROUND SCHOOLS, MANUFACTURING PLANTS, AND RETAIL STORES AT VARIOUS LOCATIONS THROUGHOUT THE LOS ANGELES METROPOLITAN AREA

NOTE: POINT AT WHICH PARKED CAR WAS OBSERVED IS INDICATED BY A CIRCLE. STRAIGHT LINE RADIATING FROM CIRCLE TERMINATES AT HOME OF OWNER AND INDICATES APPROXIMATE ROUTE FOLLOWED.

PLATE NO. 10

PLATE 10


TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
SCALE IN MILES
1937
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APPROXIMATE ROUTE FOLLOWED.
PLATE NO. 10
SAN FERNANDO
CHATSWORTH
SUNLAND
TUJUNGA
LA CRESCENTA
MONTROSE
BURBANK
VERDUGO
CANOGA PARK
RESEDA
GRANADA
NORTH HOLLYWOOD
VAN NUYS
SIERRA MADRE
MONROVIA
GLENDORA
SAN DIMAS
LA VERNE
CLAREMONT
COVINA
BALDWIN PARK
POMONA
MONTEBELLO
WHITTIER
SANTA FE SPRINGS
NORWALK
BELLFLOWER
ARTESIA
LONG BEACH
SIGNAL HILL
WILMINGTON
SAN PEDRO
PALOS VERDES HILLS
HOLLYWOOD
BEVERLY HILLS
CULVER CITY
VERNON
MAYWOOD
BELL
SOUTH GATE
DOWNEY
COMPTON
CLEARWATER
SANTA MONICA
VENICE
PLAYA DEL REY
EL SEGUNDO
MANHATTAN BEACH
HERMOSA BEACH
REDONDO BEACH
TORRANCE

PLATE 10

mobiles crossing the east side Los Angeles River bridges during the morning and evening rush hours. These samples indicate that of the total of east bound vehicles crossing these bridges during the morning rush hour, 45.6% pass directly through the central business district, and of the total of west bound vehicles crossing during the evening rush hour 50.5% pass directly through the central business district.

The 1937 survey discloses a distinct change in the directional movement of traffic. A rectangular traffic movement has been super-imposed upon the original and greatly augmented radial movement, resulting in a crisscrossing of traffic and a street and highway congestion and hazard without parallel. The rectangular network of 11,316 miles of streets and highways upon which the motor vehicles of the area operate produce over one million intersections, all of which are points of traffic conflict and hazard. This rectangular movement is illustrated by the flow of traffic on the principal streets and highways of the area as shown on Plate No. 11.

Automobile Parking

An aerial photograph was made of the central business district to determine the number of automobiles parked at one time at the curb on parking lots and moving upon the street. The number parked in garages was determined by ground counts. In addition to the picture of the central business district, several spot photographs were taken at various points throughout the area showing parking conditions as existing outside the central business district. The photograph of the central business district was taken between 11:30 A.M. and 12:30 P.M. on a clear day and at an elevation sufficiently low to clearly show all automobiles in the district visible from the air. As determined from the photograph, the total number of automobiles parked at the curb was 10,915, on parking lots, exclusive of for-sale cars, 28,764 and moving on the streets, 3,675. The average number parked at one time in garages in the district was 10,102. The number of public garages in the central business district increased from 111 in 1929 to 124 in 1937. The number of public parking lots increased from 346 in 1929 to 609 in 1937. Curb parking has been considerably reduced since 1929 by ordinance restrictions. Curb space in the central business district is utilized to capacity. The estimated capacity of the parking lots is 43,864 cars. The capacity of garages in the central business district is estimated at 13,309.

As previously stated, the number of vehicles entering the central business district in each hour exceeded the number leaving in the corresponding hour from 6 A.M. to 2 P.M., at which time there had accumulated in the district a total of 46,156 vehicles. The combined off-street parking capacity in the district is 57,173 vehicles. It should be noted, however, that these off-street parking facilities are spread rather evenly over the entire district from Sunset Boulevard to Washington Boulevard and from Figueroa Street to San Pedro Street. Many parking lots and public garages are located some distance from the principal retail business area which is bounded by First, Ninth, Figueroa and Main Streets. In this smaller area the combined capacity of parking lots is 15,344 cars, and of public garages, 7,458 cars, a total off-street parking capacity of 22,802 vehicles.

The spot aerial photographs taken at various locations in the metropolitan area show that the parking problem is not peculiar to the central business district but exists in almost, if not equal intensity in every retail business center throughout the area. The photographs of parking in industrial areas and cultural centers indicate, in addition to the area required for parking automobiles, the extent to which the automobile serves the transportation requirements of the Los Angeles area.

A study was made to determine the relation between the time in which an automobile was in active service and the time during which it was parked. From this study we concluded that the ratio of active to inactive service is about as 1 to 11. As automobile density increases and the area develops it is becoming more and more difficult to find room for parking the automobile during the period of inactive service.

Driving tests show that intersection interference accounts for the major part of all traffic delays, congestion and hazard. However, interference occurring between intersections, which increases rapidly as the use of abutting land changes from low to high intensity, is appreciable. This class of interference is characterized by pedestrians crossing the path of moving vehicles, street car operation including the loading and unloading of passengers in or near the center of the street, and automobiles leaving parking lots and parking space at the curb.

The incentive to locate retail stores, schools, churches, theaters and other establishments dependent upon public patronage adjacent to main lines of travel is as old as civilization. The reason is obvious. Futile attempts have been made from time to time to

TYPICAL PARKING LOTS—CENTRAL BUSINESS DISTRICT—LOS ANGELES

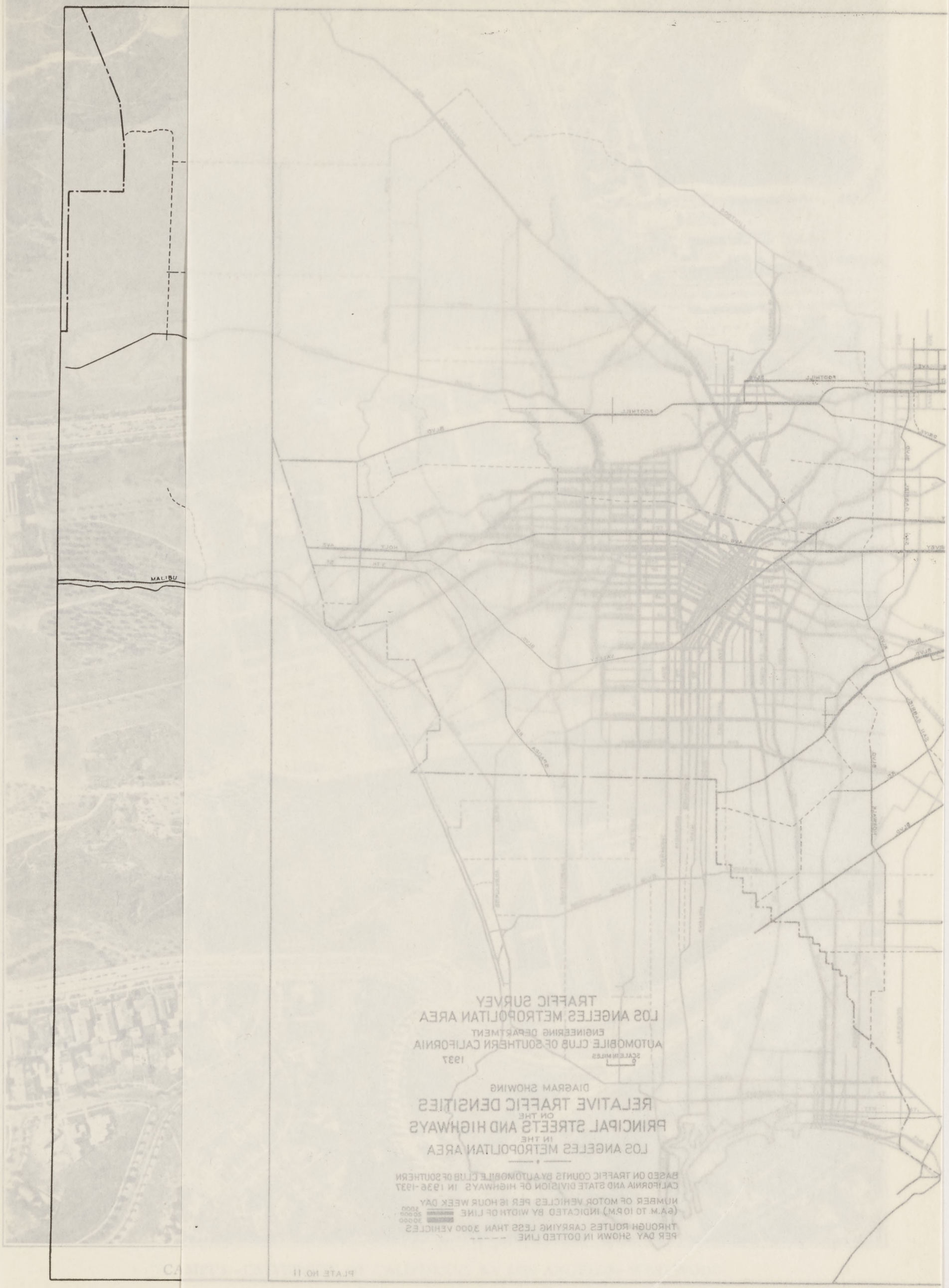

MALIBU
TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937
DIAGRAM SHOWING
RELATIVE TRAFFIC DENSITIES
ON THE
PRINCIPAL STREETS AND HIGHWAYS
IN THE
LOS ANGELES METROPOLITAN AREA
BASED ON TRAFFIC COUNTS BY AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA AND STATE DIVISION OF HIGHWAYS IN 1936-1937
NUMBER OF MOTOR VEHICLES PER 16 HOUR WEEK DAY (6 A.M. TO 10 P.M.) INDICATED BY WIDTH OF LINE
THROUGH ROUTES CARRYING LESS THAN 3000 VEHICLES PER DAY SHOWN IN DOTTED LINE

PLATE 11

TYPICAL PARKING LOTS—CENTRAL BUSINESS DISTRICT—LOS ANGELES

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
SCALE IN MILES 0
1937

DIAGRAM SHOWING
RELATIVE TRAFFIC DENSITIES
ON THE
PRINCIPAL STREETS AND HIGHWAYS
IN THE
LOS ANGELES METROPOLITAN AREA

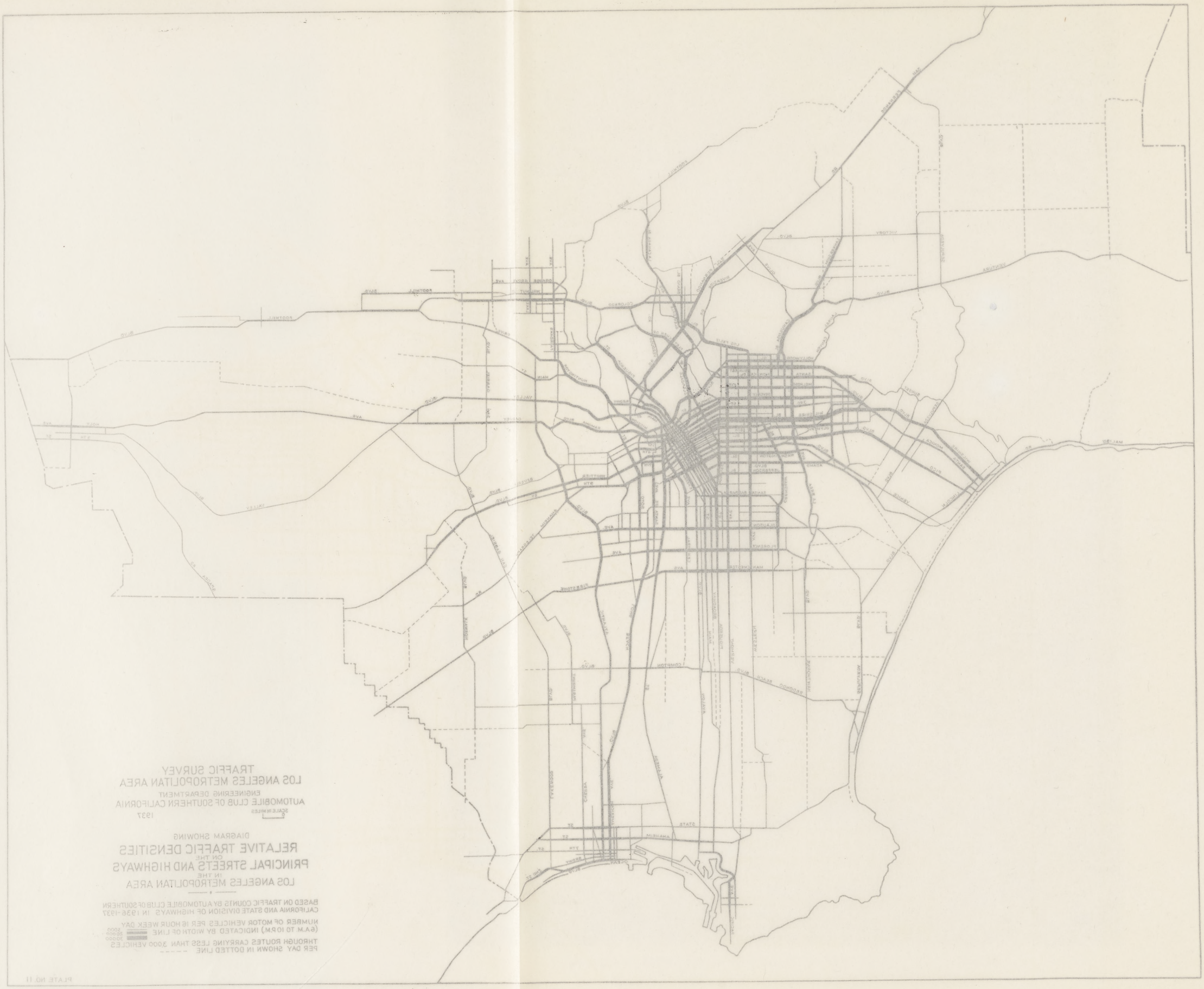
BASED ON TRAFFIC COUNTS BY AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA AND STATE DIVISION OF HIGHWAYS IN 1936-1937

NUMBER OF MOTOR VEHICLES PER 16 HOUR WEEK DAY (6 A.M. TO 10 P.M.) INDICATED BY WIDTH OF LINE 5000 20000 30000

THROUGH ROUTES CARRYING LESS THAN 3,000 VEHICLES PER DAY SHOWN IN DOTTED LINE -----

PLATE NO. 11

PLATE 11


TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
SCALE IN MILES
1937
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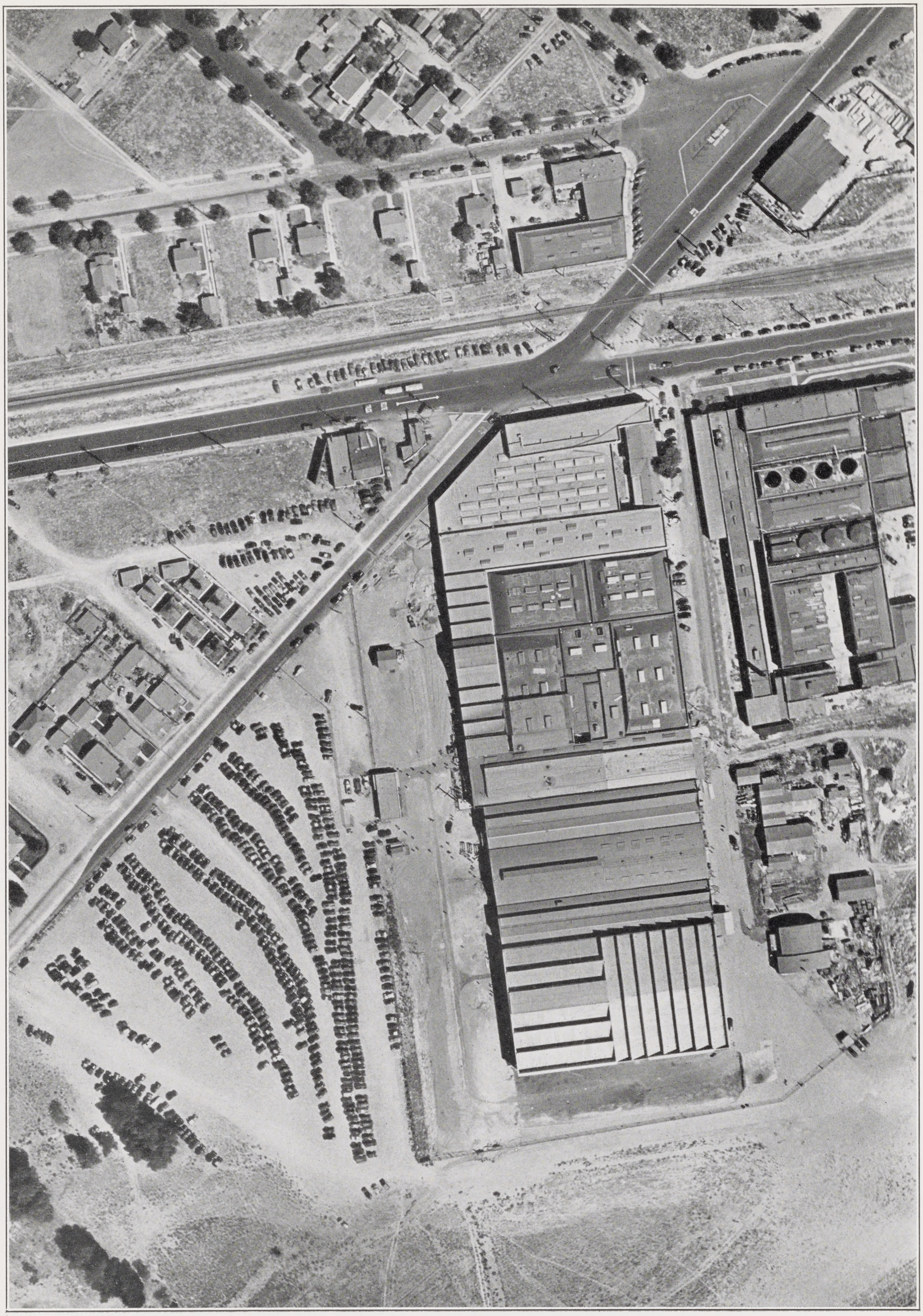
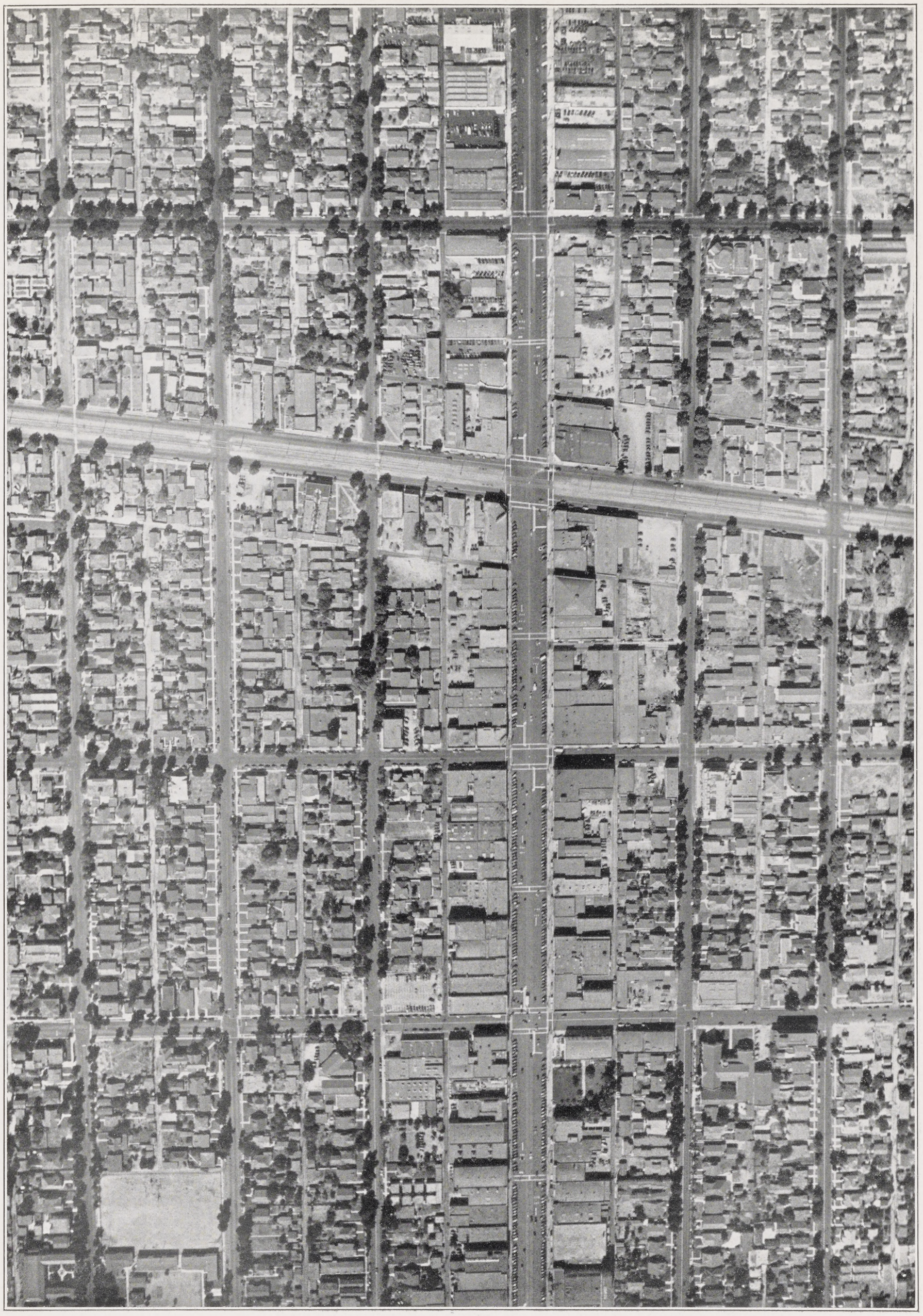
THROUGH ROUTES CARRYING LESS THAN 3000 VEHICLES PER DAY SHOWN IN DOTTED LINE
PLATE NO. 11

PLATE 11

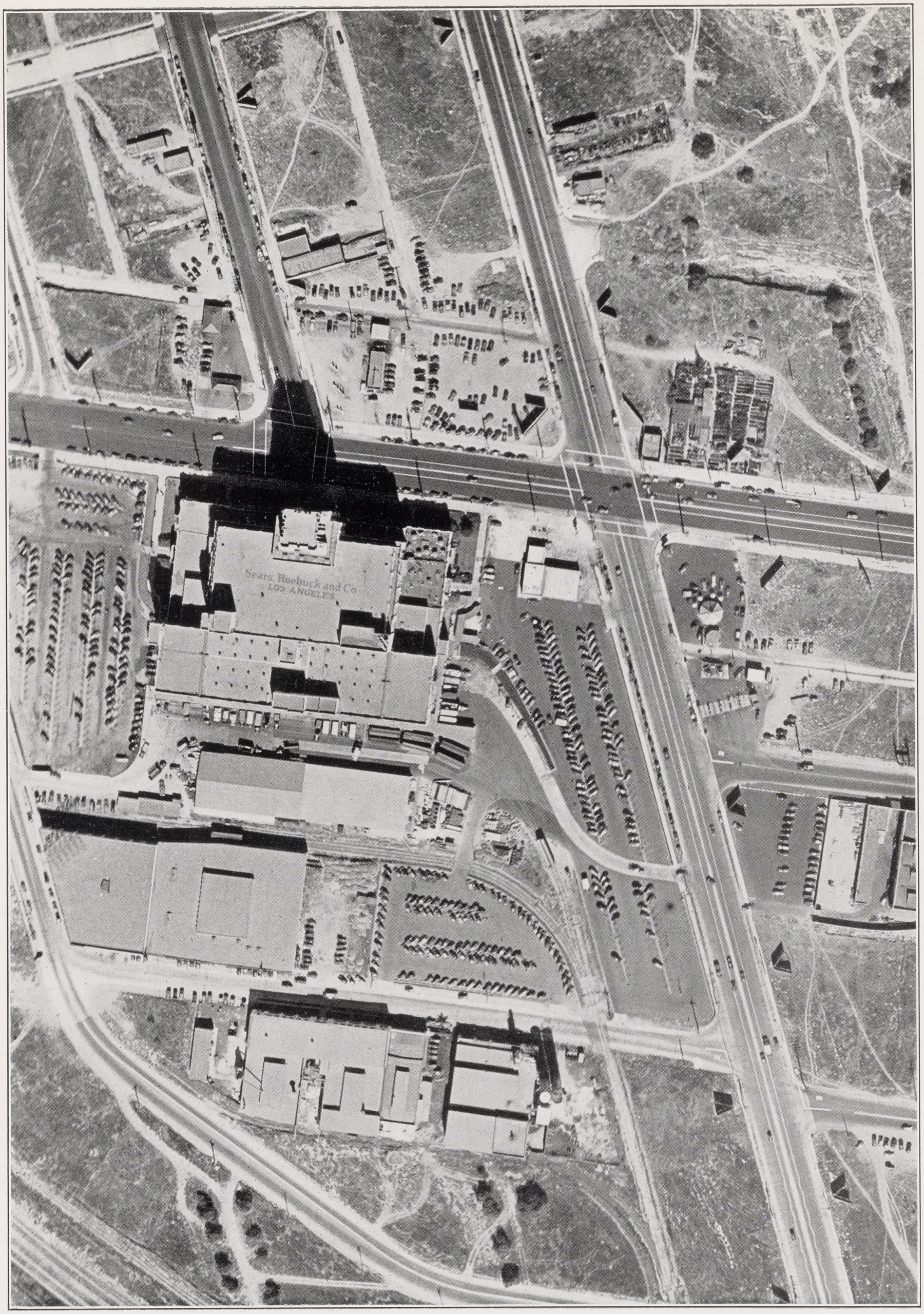
CAMPUS—UNIVERSITY OF CALIFORNIA AT LOS ANGELES—WESTWOOD



LOCKHEED AIRCRAFT CORPORATION—BURBANK



CURB PARKING ALONG PACIFIC BOULEVARD—HUNTINGTON PARK



SEARS, ROEBUCK AND CO., EAST OLYMPIC BOULEVARD, LOS ANGELES

protect the street or highway against interference from land use by zoning against such uses as tend to interfere with moving traffic. Such practice appears to be unsound in view of the established rights of citizens to hold land for profitable use. Such practice again would appear doubly unsound when the cost of the street or highway is assessed in part or in whole against abutting land.

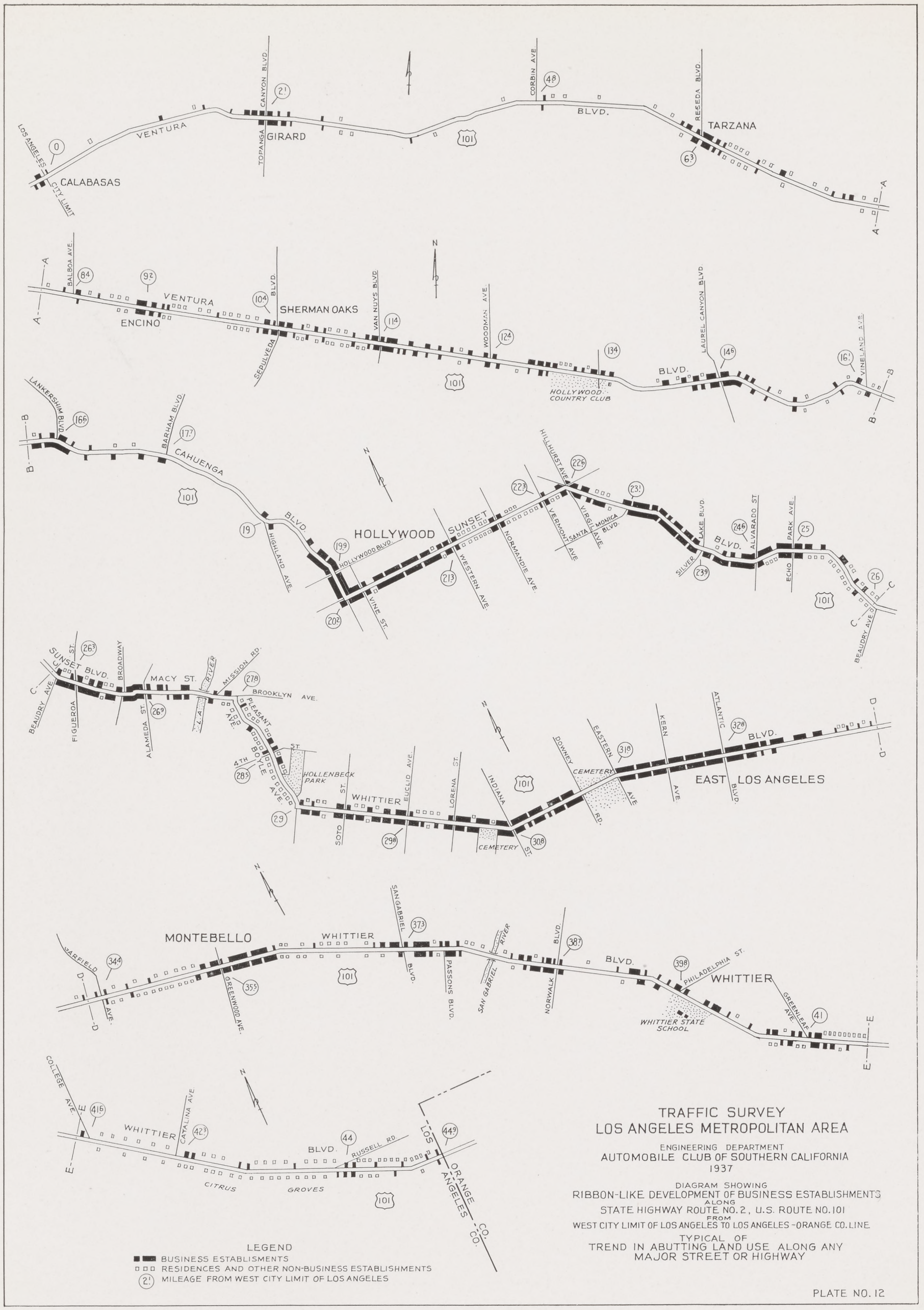
A study was made as a part of the 1937 survey, to determine the extent to which the use of adjacent land changed from undeveloped or residential to commercial with the growth of travel. Plate No. 12 shows a section of U. S. 101, extending from Calabasas to the Orange County line. Land use adjacent to this important national, state and local highway, indicated by legend, is predominantly commercial. Automobile movement upon this route is subjected for a length of some 45 miles to all the delays and hazards of city travel. Conditions along this route are typical of conditions along every major traffic route in metropolitan Los Angeles. This trend in the use of land adjacent to major highways and streets is further illustrated on Plate No. 13, which is self-explanatory.

The effect of intersection and land use interference upon automobile transportation throughout the metropolitan area is illustrated by comparing the time required to drive from Seventh and Broadway, Los Angeles, to communities in the metropolitan area determined during off peak periods in 1930 with the time required to drive to the same points at off peak periods in 1936. These data are detailed upon Plate No. 14. In brief this study shows that the growing street and highway congestion is slowly but surely pushing the various communities farther and farther apart.

Commercial use of land abutting upon major streets and highways creates a condition under which the composition of the traffic stream is always changing. Vehicles are leaving and entering the stream at all points but still the stream flows on gathering volume and becoming more and more sluggish as intensity of land use increases. This characteristic of street and highway traffic is clearly illustrated by an analysis of numerous samples from moving traffic at various locations in the metropolitan area and from driving time tests along various streets. From a number of samples on La Brea Avenue between Wilshire Boulevard and San Vicente Boulevard, it was found that the shortest distance from point of origin was 3 miles and the greatest distance 22 miles. The average distance from point of origin of all vehicles observed was 7.2 miles. On Hollywood Boulevard between Vine Street and Western Avenue, the shortest distance from point of origin was 0.5 mile, the maximum 13 miles and the average 9.9 miles. On U. S. 101 between Sepulveda Boulevard and Playa del Rey, the shortest distance from point of origin was 0.5 mile, the maximum 26 miles, and the average 10.9 miles. On Wilshire Boulevard between Doheny Drive and San Vicente Boulevard the shortest distance from point of origin was 1 mile, the maximum 21 miles and the average 6.3 miles. On Figueroa Street between Adams Boulevard and Santa Barbara Avenue, the shortest distance from point of origin was 0.5 mile, the maximum 21.0 miles, and the average 4.8 miles. On Manchester Avenue between Atlantic Avenue and Alameda Street, the shortest distance from point of origin was 0.5 mile, the maximum 21.0 miles, and the average 9.0 miles. In these observations vehicles originating outside of the metropolitan area were, in all cases, disregarded. The speed of traffic was found to vary from a minimum of about 3 miles per hour at times of peak load in the most congested sections to about 45 miles per hour in outlying districts.

Studies were made in connection with the 1937 survey to determine, in addition to origin and destination, the purpose of travel. The purpose was grouped under two general heads, purchasing and non-purchasing. The data obtained on this subject is quite meager, yet it serves to indicate the extent to which the automobile is used by all classes in going to and from place of residence to place of business or employment. In brief, 26.6% of the total 24 hour travel occurs between the hours of 7 A.M. and 9 A.M. and 4 P.M. and 6 P.M., while approximately 80% of the purchases in the retail shopping centers are made between the hours of 11 A.M. and 4 P.M.

Classification of street and highway use according to purpose of such use is of considerable importance to the location and design of a system of streets and highways for any given area. Obviously, such classification in the Los Angeles area cannot be determined with accuracy but must be estimated, using such facts as are available as a basis for the estimate. In this manner we have estimated that of the 24 hour street and highway use, 35% is commuting, 25% commercial, including salesmen, 10% public service, 10% amusement and 20% shopping.

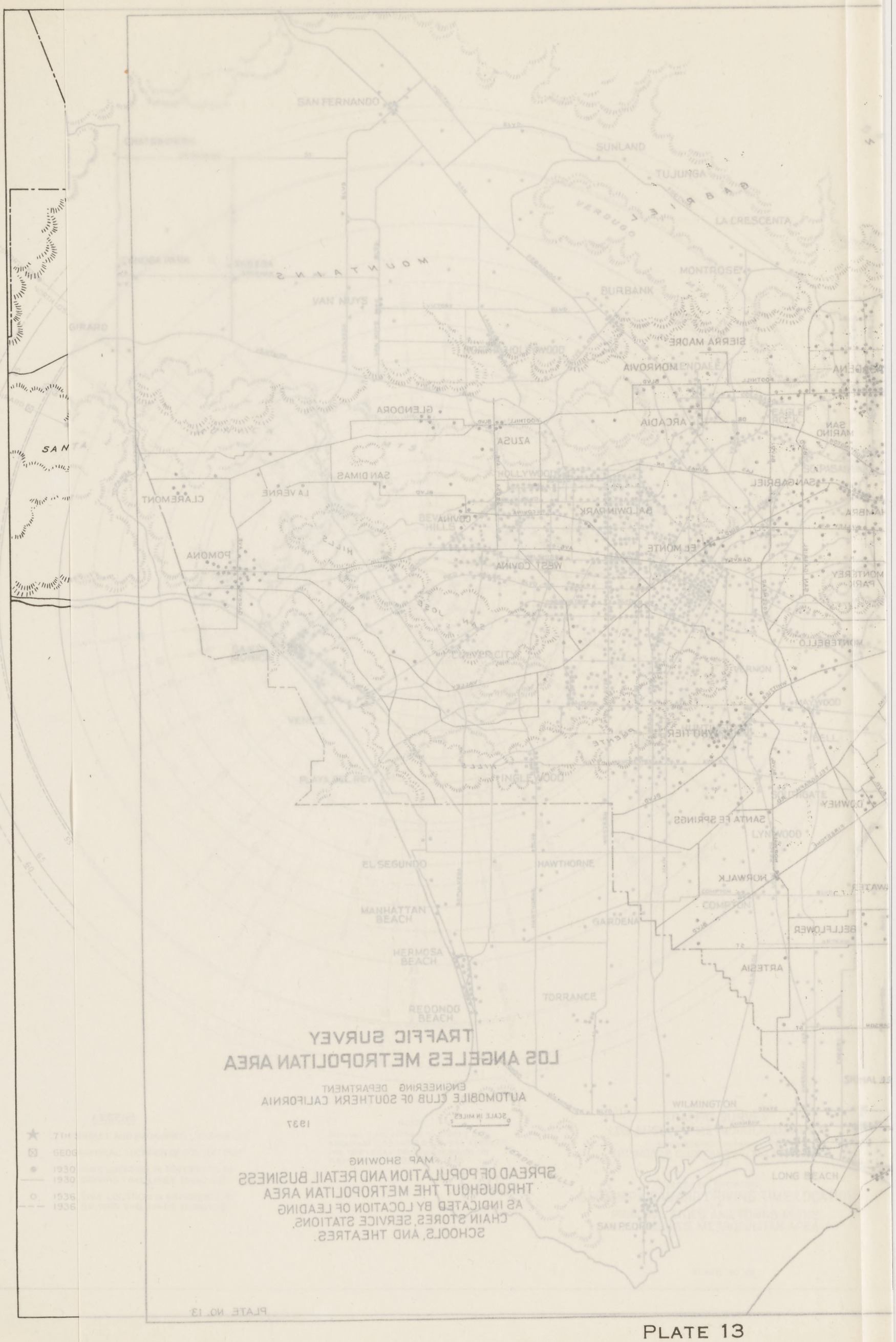


TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

DIAGRAM SHOWING
RIBBON-LIKE DEVELOPMENT OF BUSINESS ESTABLISHMENTS
ALONG
STATE HIGHWAY ROUTE NO. 2, U.S. ROUTE NO. 101
FROM
WEST CITY LIMIT OF LOS ANGELES TO LOS ANGELES - ORANGE CO. LINE
TYPICAL OF
TREND IN ABUTTING LAND USE ALONG ANY
MAJOR STREET OR HIGHWAY

PLATE NO. 12


SAN FERNANDO
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AZUSA
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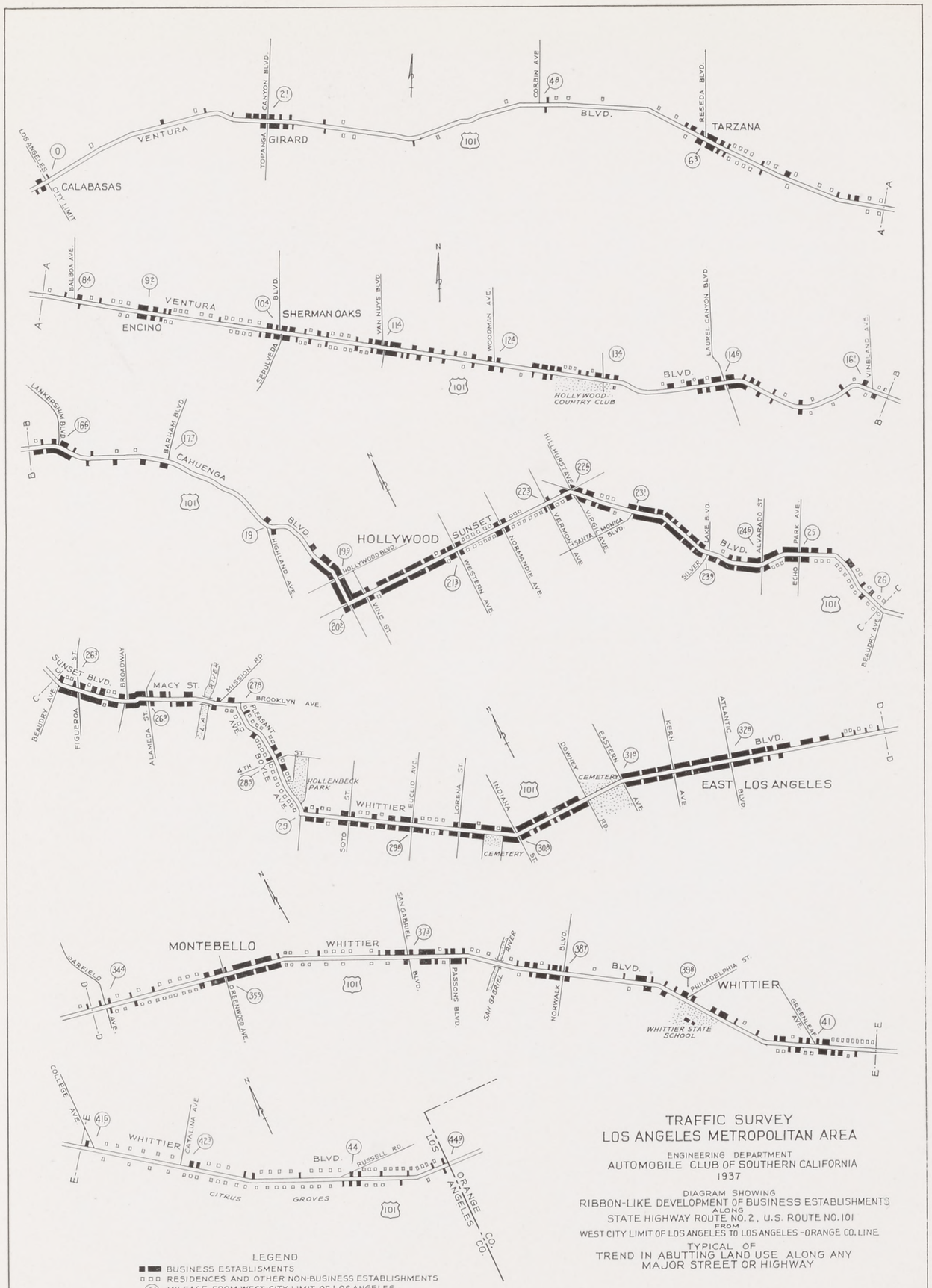
ARTESIA
WILMINGTON
LONG BEACH
SAN PEDRO
SIERRA MADRE
MOUNTAINS
VERDUGO
HILLS
TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937
SCALE IN MILES
MAP SHOWING
SPREAD OF POPULATION AND RETAIL BUSINESS
THROUGHOUT THE METROPOLITAN AREA
AS INDICATED BY LOCATION OF LEADING
CHAIN STORES, SERVICE STATIONS,
SCHOOLS, AND THEATRES.
PLATE NO. 13

PLATE 13

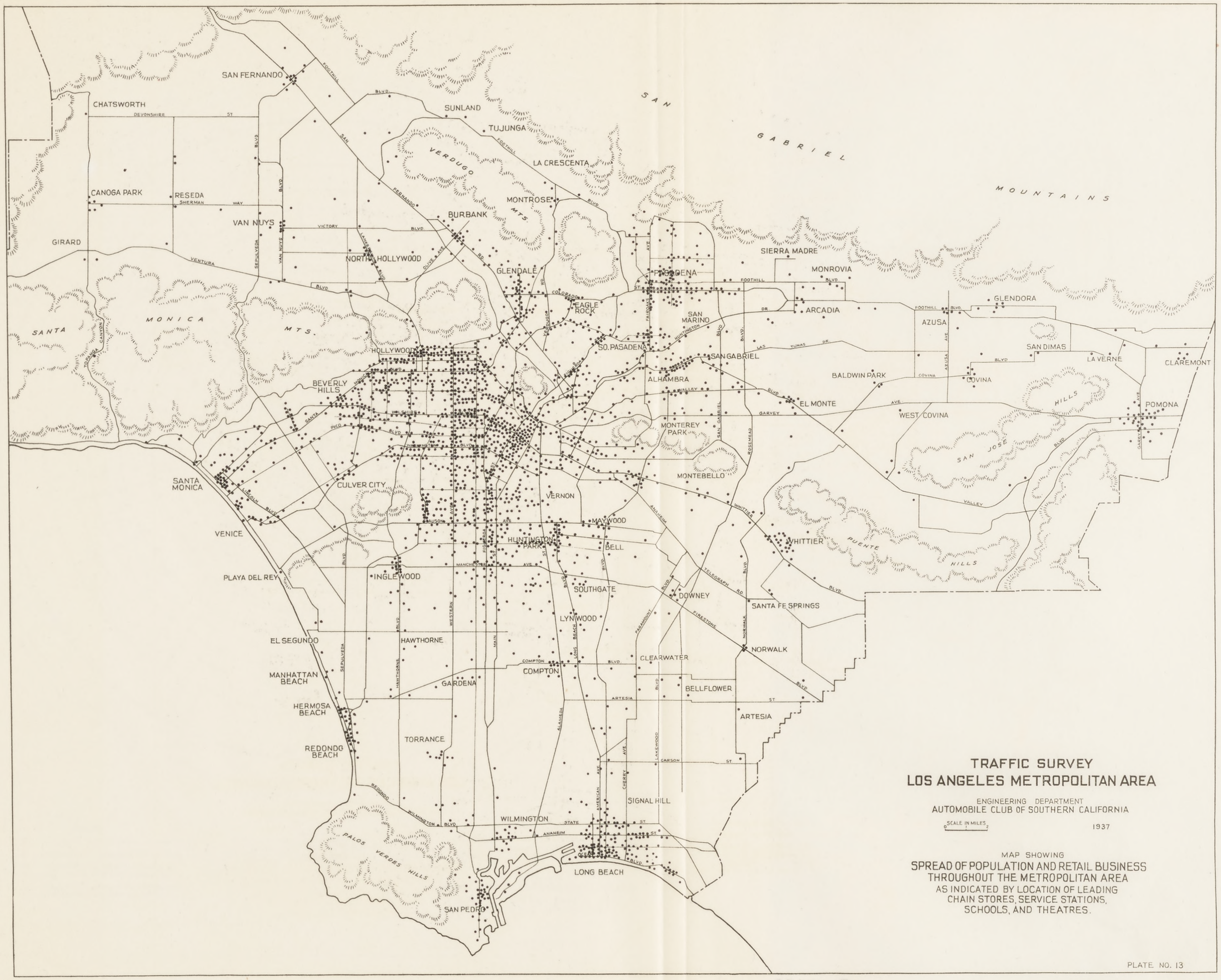


TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

DIAGRAM SHOWING
RIBBON-LIKE DEVELOPMENT OF BUSINESS ESTABLISHMENTS
ALONG
STATE HIGHWAY ROUTE NO. 2, U.S. ROUTE NO. 101
FROM
WEST CITY LIMIT OF LOS ANGELES TO LOS ANGELES - ORANGE CO. LINE
TYPICAL OF
TREND IN ABUTTING LAND USE ALONG ANY
MAJOR STREET OR HIGHWAY

PLATE NO. 12



TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

SCALE IN MILES 0 1 2

1937

MAP SHOWING
SPREAD OF POPULATION AND RETAIL BUSINESS
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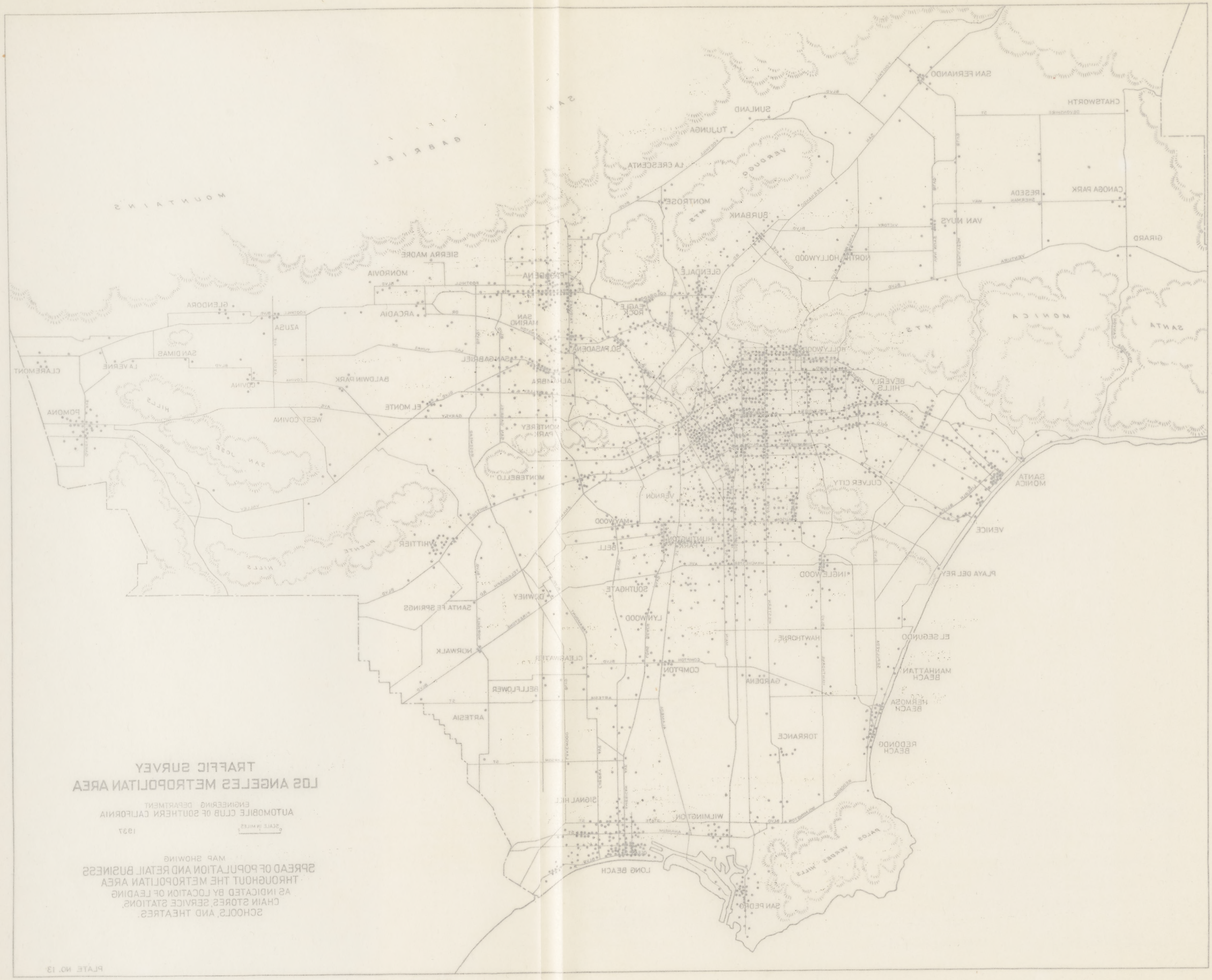
SAN FERNANDO
CHATSWORTH
SUNLAND
TUJUNGA
LA CRESCENTA
MONTROSE
BURBANK
VAN NUYS
CANOGA PARK
PRESEDA
GIRARD
NORTH HOLLYWOOD
GLENDALE
SIERRA MADRE
MONROVIA
ARCADIA
GLENDORA
AZUSA
SAN DIMAS
LA VERNE
CLAREMONT
POMONA
BALDWIN PARK
COVINA
WEST COVINA
EL MONTE
SAN GABRIEL
SO. PASADENA
EAGLE ROCK
HOLLYWOOD
BEVERLY HILLS
CULVER CITY
SANTA MONICA
VENICE
PLAYA DEL REY
MAYWOOD
HUNTINGTON PARK
BELL
INGLEWOOD
SOUTHGATE
DOWNEY
LYNWOOD
SANTA FE SPRINGS
NORWALK
CLEARWATER
HAWTHORNE
EL SEGUNDO
MANHATTAN BEACH
COMPTON
GARDENA
BELLFLOWER
ARTESIA
HERMOSA BEACH
TORRANCE
REDONDO BEACH
SIGNAL HILL
WILMINGTON
LONG BEACH
SAN PEDRO
PALOS VERDES HILLS
MONTEBELLO
WHITTIER
PUENTE HILLS
SAN JOSE HILLS
MOUNTAINS
SAN GABRIEL
SANTA MONICA MTS
HOLLYWOOD MTS
TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
SCALE IN MILES
1937
MAP SHOWING
SPREAD OF POPULATION AND RETAIL BUSINESS
THROUGHOUT THE METROPOLITAN AREA
AS INDICATED BY LOCATION OF LEADING
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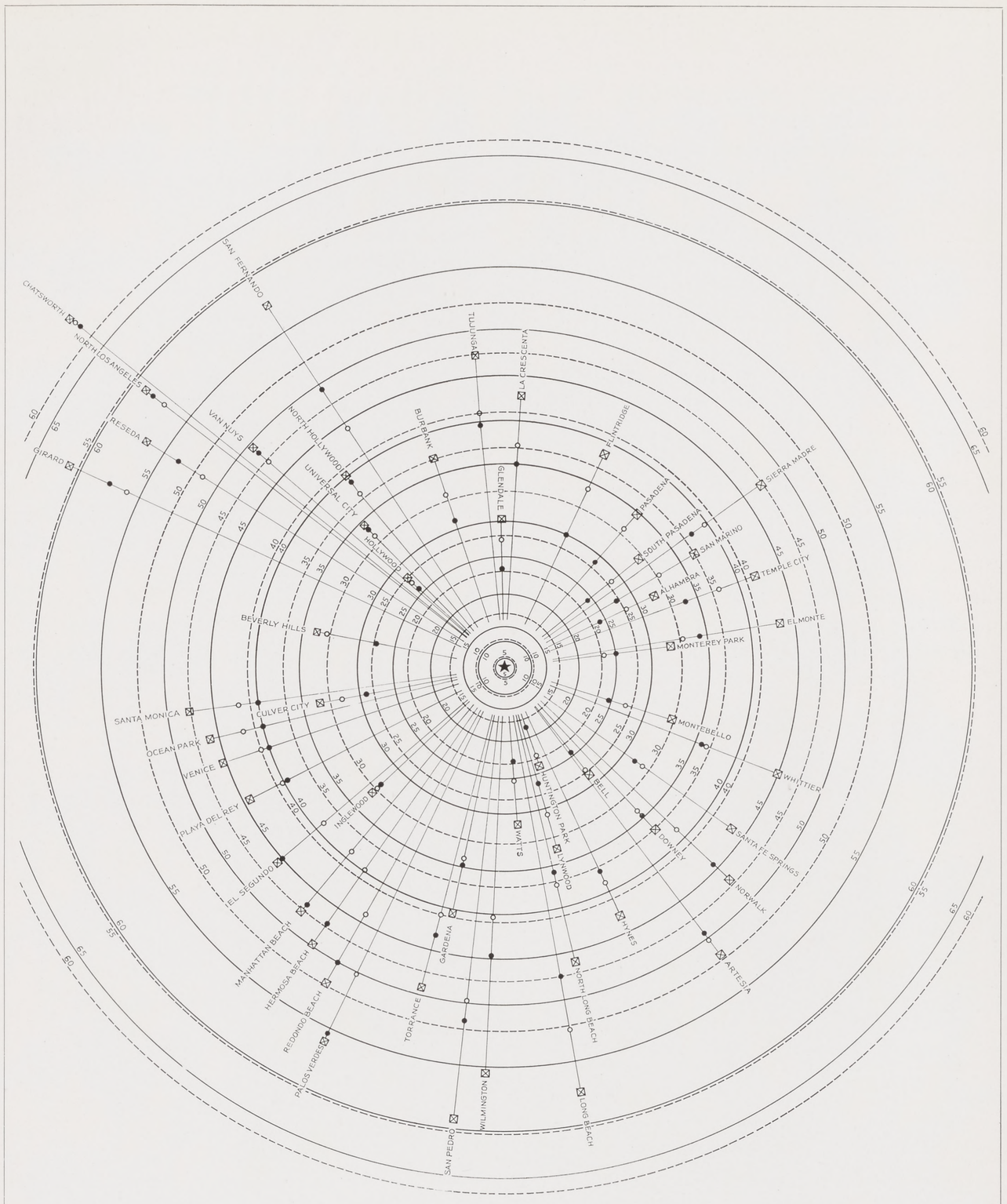


LEGEND

- ★ 7TH STREET AND BROADWAY, LOS ANGELES
- ⊠ GEOGRAPHICAL LOCATION OF CITY OR TOWN
- ● 1930 TIME LOCATION IN REFERENCE TO
- —— 1930 DRIVING TIME LINES (MINUTES)
- ○ 1936 TIME LOCATION IN REFERENCE TO
- – – – 1936 DRIVING TIME LINES (MINUTES)

NOTE:

DRIVING TIME FROM 7TH STREET AND BROADWAY, LOS ANGELES IS THE AVERAGE FOR OFF-PEAK TRAFFIC PERIODS ON WEEK DAYS IN 1930 AND 1936.

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

DIAGRAM SHOWING
GEOGRAPHICAL AND DRIVING TIME LOCATION
OF
PRINCIPAL CITIES AND TOWNS IN THE
LOS ANGELES METROPOLITAN AREA

PLATE NO. 14

The Street and Highway Traffic Problem of the Los Angeles Area

For the purpose of this discussion the following assumptions are made:

1. All existing streets and highways in the Los Angeles area have been developed primarily to serve adjacent and tributary land.

2. The use of existing streets and highways in the Los Angeles area is now or will ultimately become predominantly local in character.

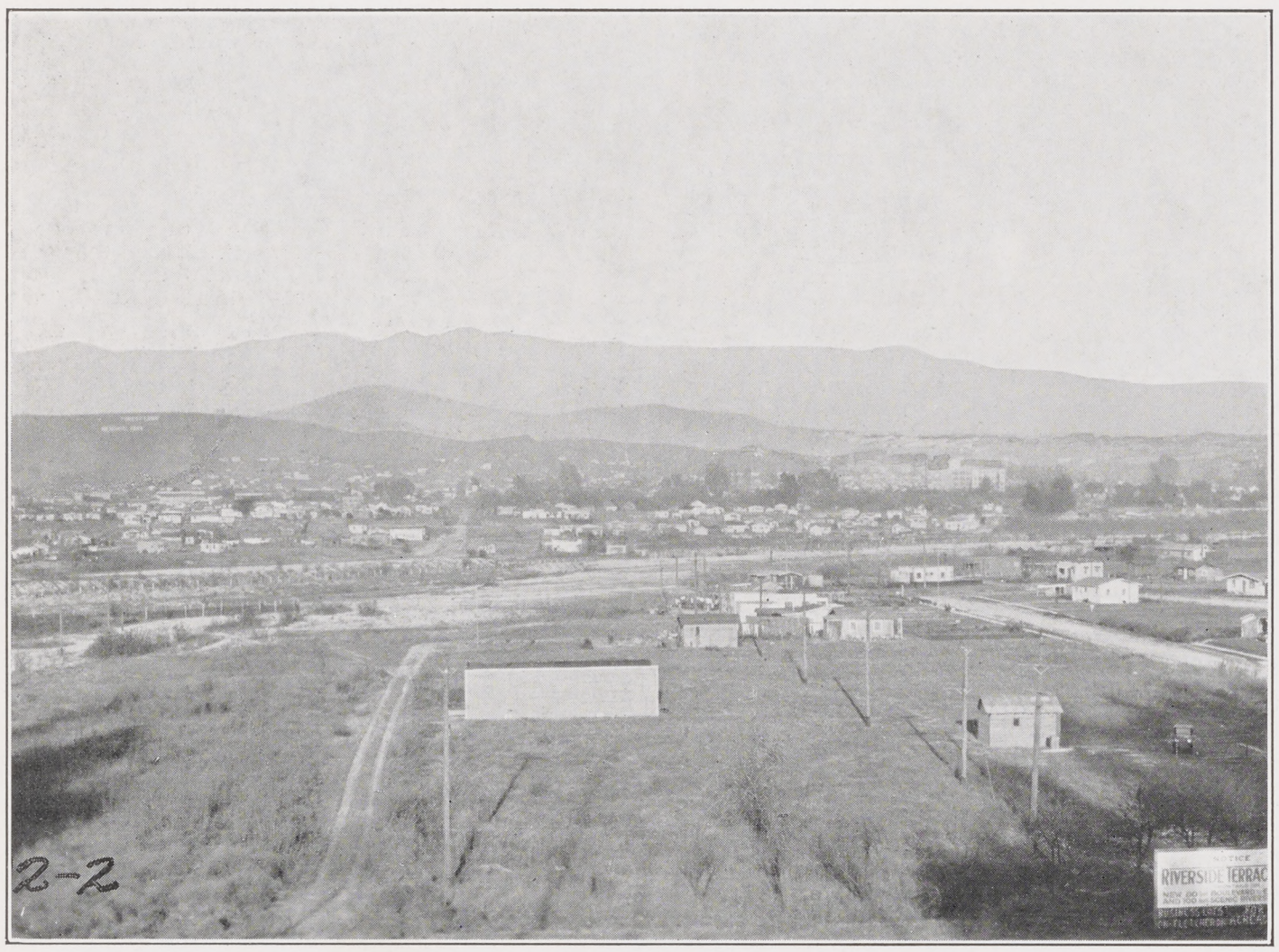
3. All street and highway use is made up of through and local travel.

4. The total daily use of each automobile is made up in part of local travel and in remaining part of through travel.

5. Parking areas for automobiles are as essential to the use of the automobile as are streets and highways.

6. Land service streets in large centers of population are inadequate for efficient automobile use and with the continued use of such streets for both local and through travel, congestion and accidents will increase rapidly as population increases.

The street and highway traffic problem of the Los Angeles area may be divided into three parts. First, the problem of providing adequate facilities for moving through traffic, second, increasing the efficiency of the land service streets, and third, providing adequate parking facilities for automobiles. It is obvious that the solution of the first problem will not be found through providing more land service streets and highways, for such streets only add to the number of intersections and increase traffic conflicts. It has been observed that with the opening of each major street and highway in the metropolitan area, a change in the use of adjacent land has immediately set in. The new use is invariably commercial and of such nature as to interfere with moving traffic. As the change in use continues, traffic movement becomes more and more sluggish until finally the street becomes of little or no value to through travel. The building of new land service streets and highways is not only futile from the standpoint of improving traffic conditions, but effects the economic structure of the entire area in that established commercial districts are robbed to more or less extent to support the new area, and large sections of land made unsuitable for residential purposes. The solution of the problem of providing adequate facilities for through traffic will be found in providing a network of traffic routes for the exclusive use of motor vehicles over which there shall be no crossing at grade and along which there shall be no interference from land use activities.



FLETCHER DRIVE AT RIVERSIDE DRIVE IN 1927

The solution of the second problem, that of increasing the efficiency of land service streets, will become more and more a problem of traffic direction and control if special motor routes are provided, new streets and highways being required only as new residential areas are developed to accommodate new people. There are at the present time may locations throughout the Los Angeles area where the efficiency of the land service streets and highways can be greatly increased by physical improvements such as filling in gaps on and extending major streets and highways and separating grades of intersecting major thoroughfares. This latter is of vital importance from the standpoint of permanent improvement in traffic conditions upon land service streets.

Curb parking not only reduces the capacity of the street for moving traffic and creates a substantial hazard for both vehicles and pedestrians in business centers, but is a source of continual annoyance in residential districts adjacent to shopping centers and destroys values therein. By contributing to street congestion, premature decentralization of business is encouraged which again has the effect of decreasing property values. If the automobile is to continue as an important factor in the transportation of persons and commodities in the Los Angeles area, off street parking facilities must be provided. If left to private initiative, such areas will be provided only when and where such facilities will show immediate profit. At such time, land values will have increased because of improvements with the result that the cost of automobile parking will continue to increase to the point where it will seriously affect the use of this vehicle. The immediate acquisition of off street parking facilities throughout the metropolitan area should be encouraged by gradually restricting curb parking until ultimately no curb parking will be provided in or adjacent to any commercial center and there will be a minimum of such parking in residential districts.

Recommendations

1. Motorways.

It is recommended that a network of motorways be constructed to serve the entire metropolitan area of Los Angeles as defined in this report. The location of these motorways as indicated by traffic movement and population trend is illustrated upon Plate No. 15. These motorways should be developed upon a right-of-way of not less than 360 feet in width through residential territory and not less than 100 feet in width through established business districts. In residential territory the center portion of the right-of-way should be paved to accommodate from four to six lanes of

FLETCHER DRIVE AT RIVERSIDE DRIVE IN 1937

traffic, as required, with a physical barrier extending the full length of the motorway dividing opposing lanes of traffic. The remaining land on each side should be planted to trees and shrubs. There should be no crossing at grade at any point. Secondary streets should cross underneath or above motorways as conditions dictate. At points where motorways or a motorway and a major street or highway intersect, a structure generally referred to as a cloverleaf should be installed. These structures provide not only for separating the paths of intersecting traffic, but permit of an interchange of traffic between two motorways or a motorway and a major street. Access to motorways should be provided where required between cloverleaf intersections by means of a ramp from a dead end street. In districts where the land is generally flat, the motorway section would be raised or depressed towards the center as conditions dictate to provide head room for grade separation structures. Through hill country, grade separations can be provided at relatively low cost by taking advantage of natural features of the land.

Through business districts a right-of-way 100 feet in width should be acquired through or near the center of the block. On this land the so-called motorway building should be constructed. In general, the first and second floors of this building would be devoted to retail business, the third floor to the motorway proper, the fourth and fifth floors and as many additional floors as required to parking and the remaining floors to office space. Parking floors would be reached by means of ramps and all floors provided with elevator service. Surface streets would be crossed on bridges connecting motorway buildings. Access to surface streets would be provided at convenient intervals. These motorway buildings should be self-liquidating. Motor bus operation should be permitted but all loading and unloading should be at points outside of the motorway. These motorways would be located through territory where the value of land and improvements is relatively low. It is felt that the motorways, which will always be free of interference, will anchor both residential and business districts, greatly increase property values and raise the efficiency of the automobile to close to its rated capacity.

The average cost of motorways outside of business districts is estimated at $2,000,000 a mile. The motorway buildings, including connecting bridges, are estimated at $4.50 a square foot of floor area. The general plan and cross-section of the proposed motorway through residential territory is shown on Plates No. 16 and No. 17 and the plan and cross-section of the proposed motorway building is shown on Plate No. 18. Plate No. 19 shows an alternate design of a motorway building in which the motorway and parking floors are arcaded above and along an existing surface street.

2. Land Service Streets and Highways

Land service streets and highways will always form an essential part of any transportation network. However, as routes are provided for the exclusive use of moving vehicles, these streets and highways will function largely as terminal facilities, with the result that the density of use will be substantially less than under present dual use. The efficiency of these land use streets and highways can, it is believed, be greatly increased by classification, physical improvements, removal of unnecessary obstructions and traffic regulation, and with this purpose in view the following recommendations are made:

a. Classify all land service streets and highways, exclusive of state highways, as commercial or residential, the basis for this classification to be the predominant use of abutting land.

b. Remove all street railways from both commercial and residential streets and state highways within a stated reasonable period of time.

c. Establish an adequate metropolitan motor bus transportation system with off-street terminal facilities.

d. Separate grades of intersecting commercial streets and highways wherever practical.

e. Install where required as rapidly as practical, an inter-connected system of traffic signals on commercial streets and highways. These signals to be of uniform design, suspended over the center of intersections and to carry the names of intersecting streets and highways.

f. It is recommended that no additions be made to the state highway system as now designated in the Los Angeles metropolitan area until existing designated routes have been developed to adequate standards, including grade separations wherever practical. Future additions to this system in the Los Angeles area to be made with the view solely of bettering terminal or through routes for traffic originating on the state highway system outside of the metropolitan area.

3. Motor Vehicle Parking.

a. It is recommended that curb parking be prohibited on all commercial streets and highways.

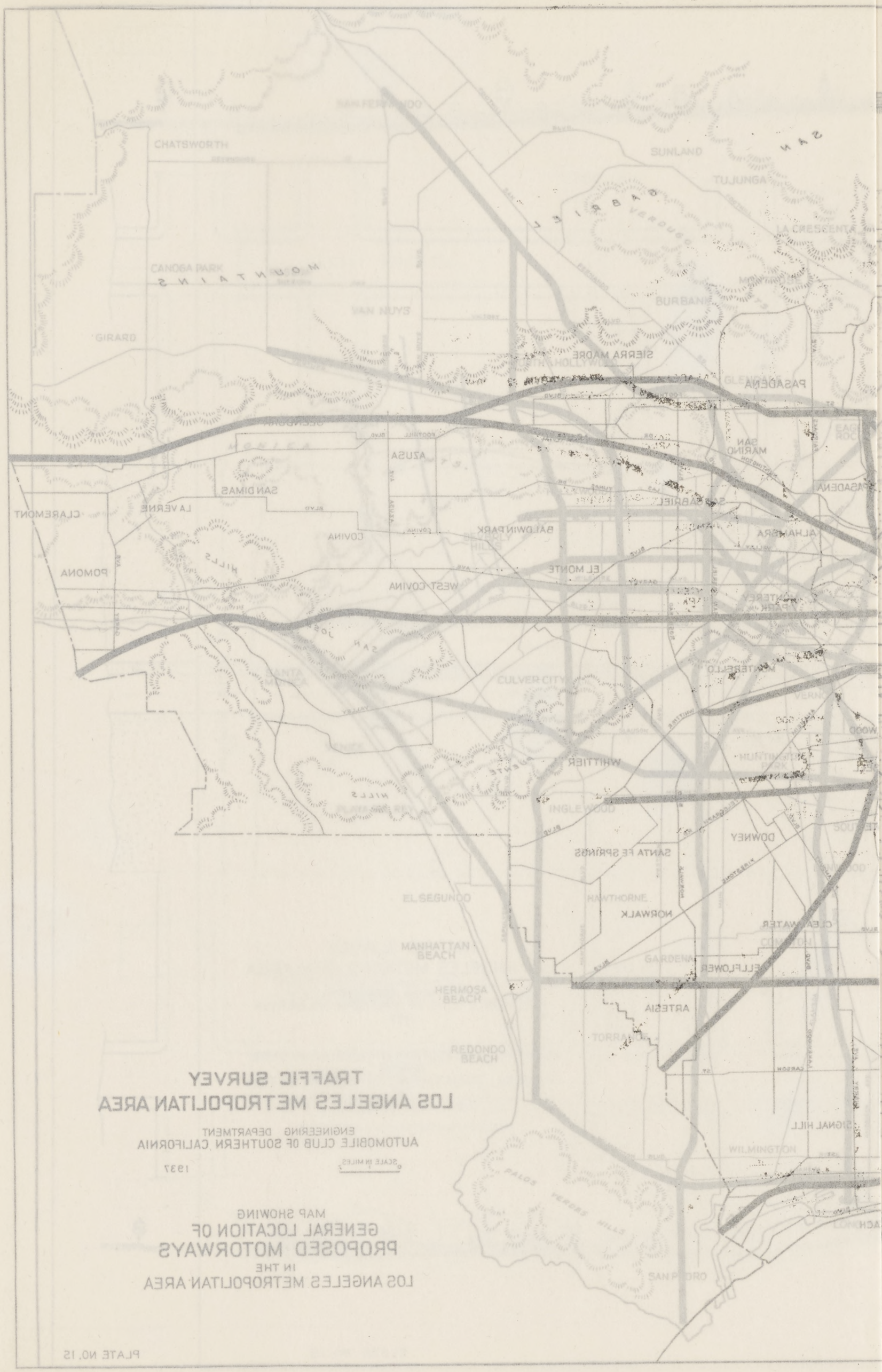


PLATE 15

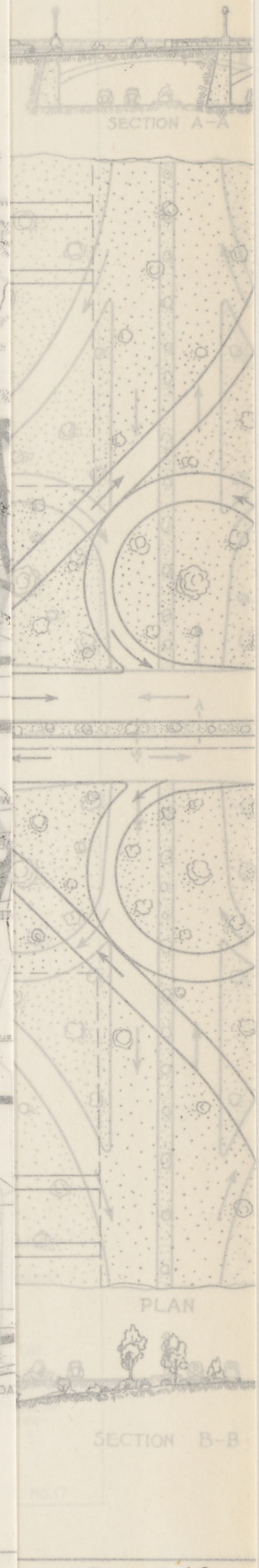


PLATE 16

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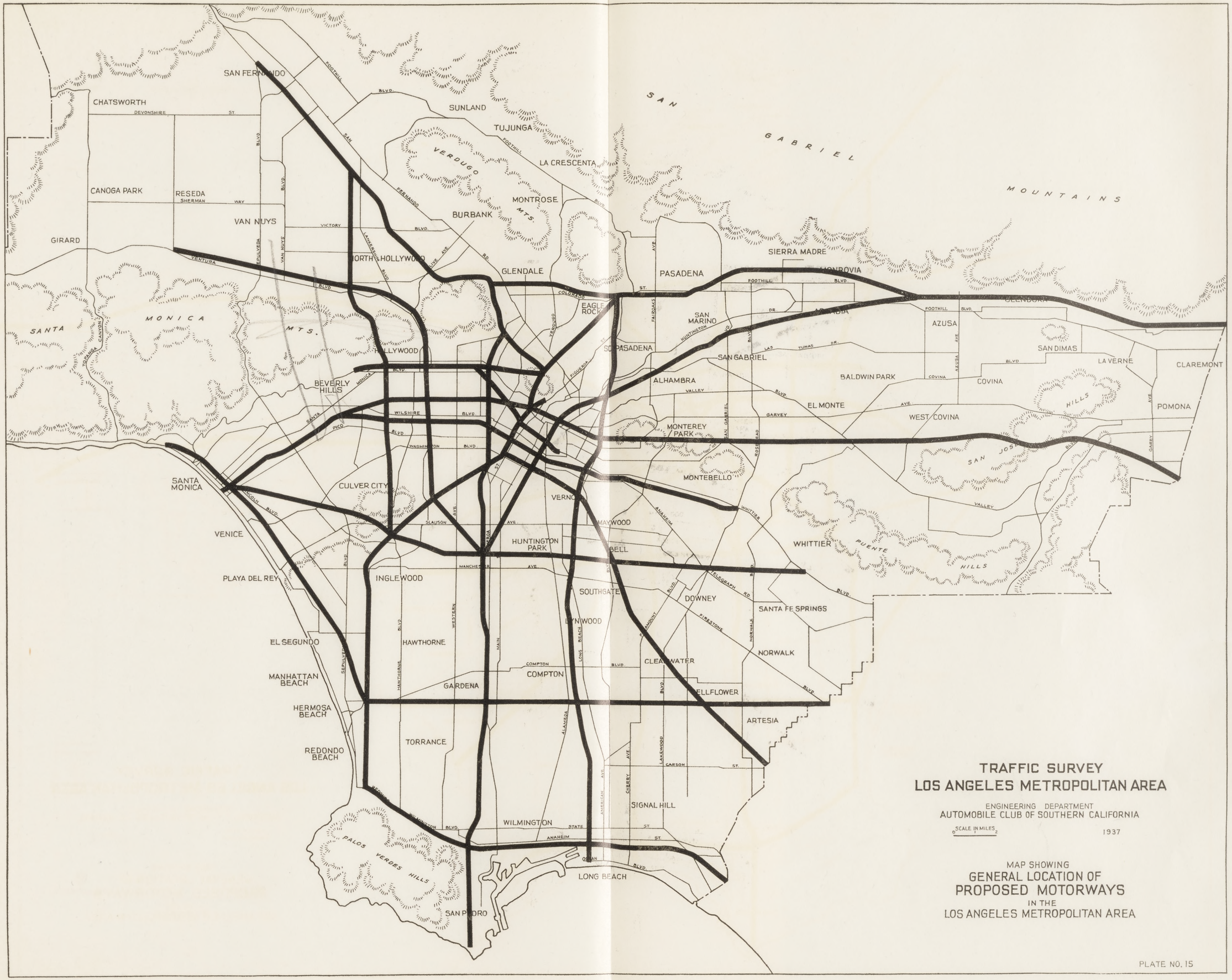

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA

SCALE IN MILES 0 1 2

1937

MAP SHOWING
GENERAL LOCATION OF
PROPOSED MOTORWAYS
IN THE
LOS ANGELES METROPOLITAN AREA

PLATE NO. 15

PLATE 15

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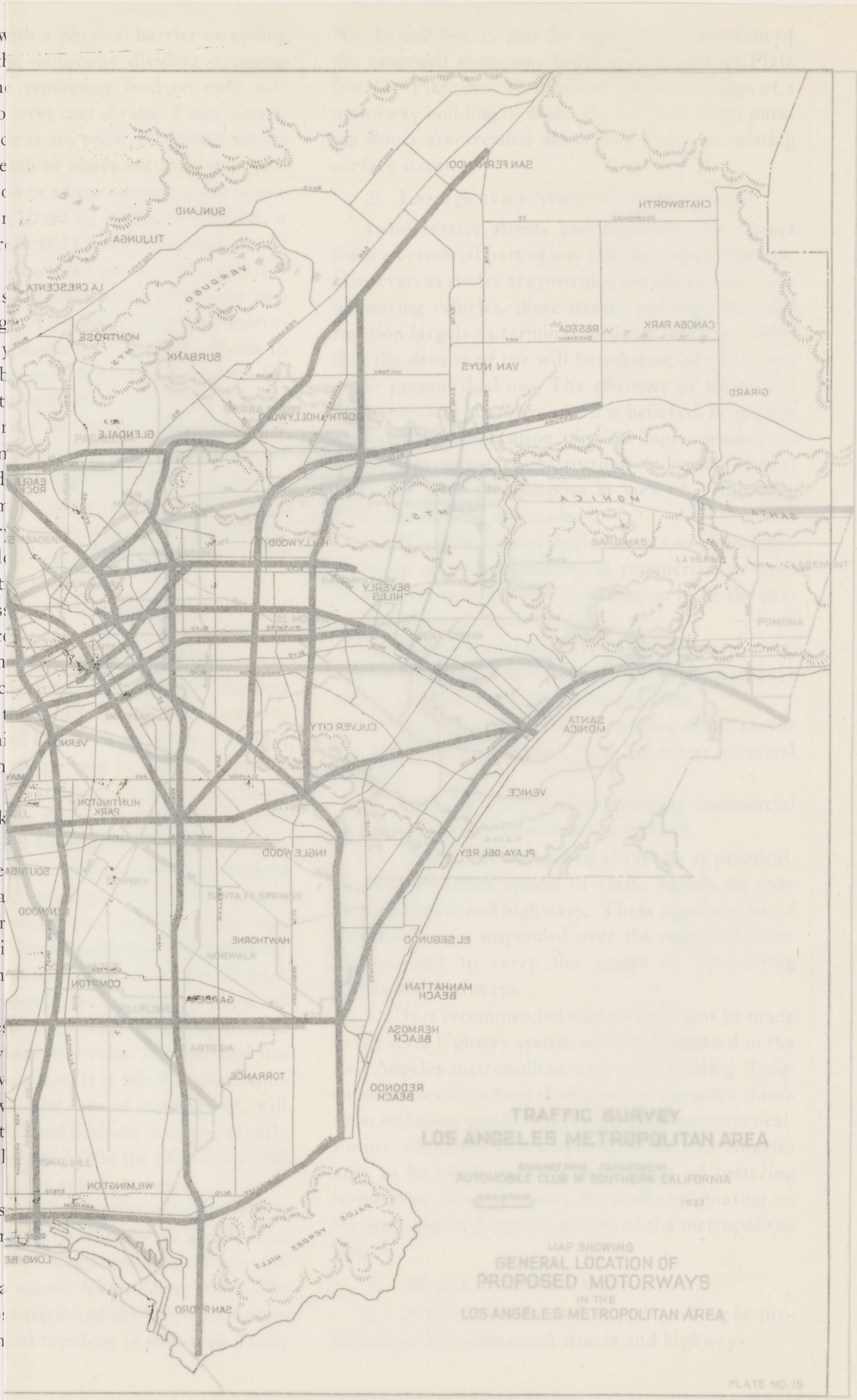


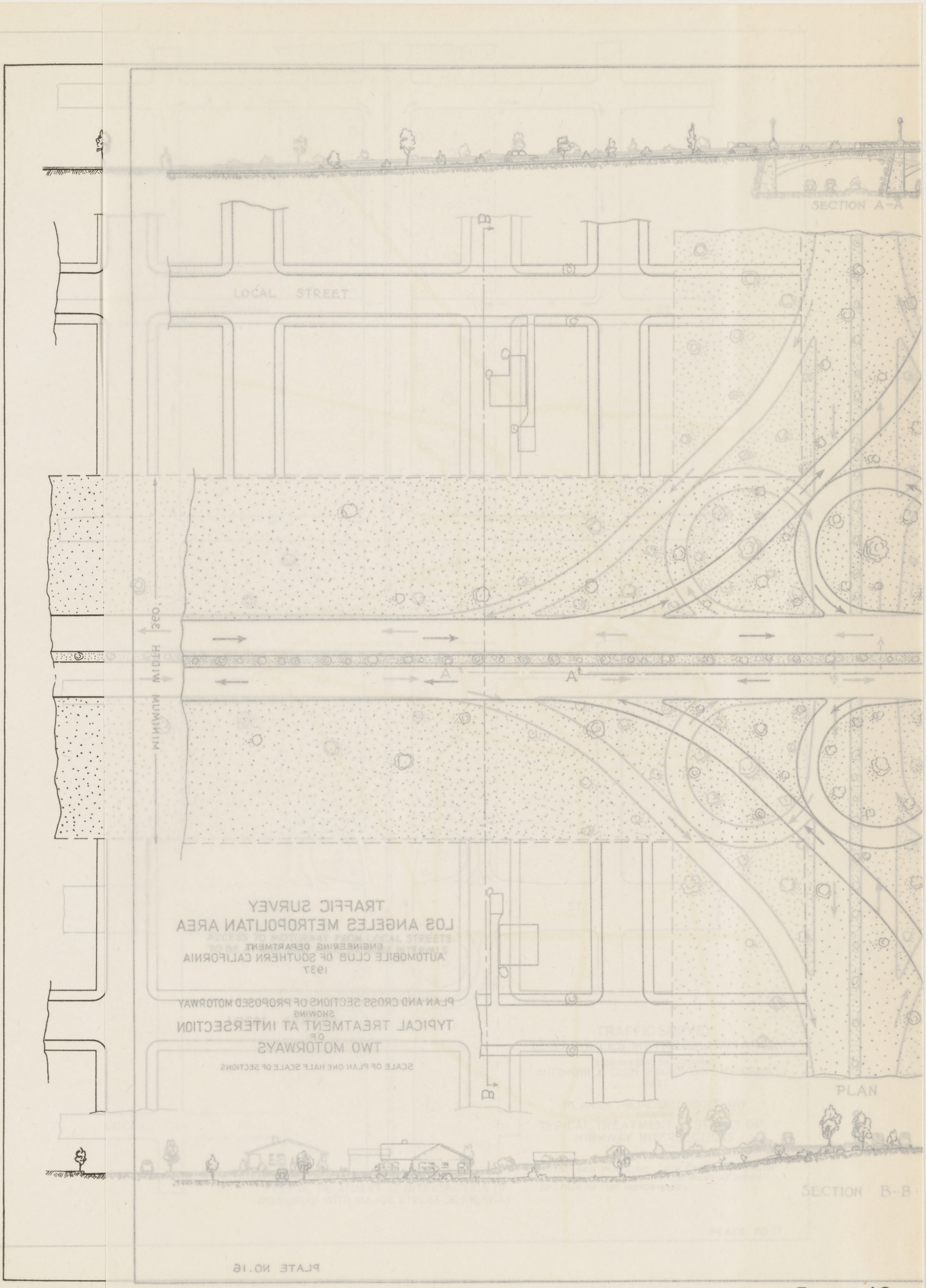
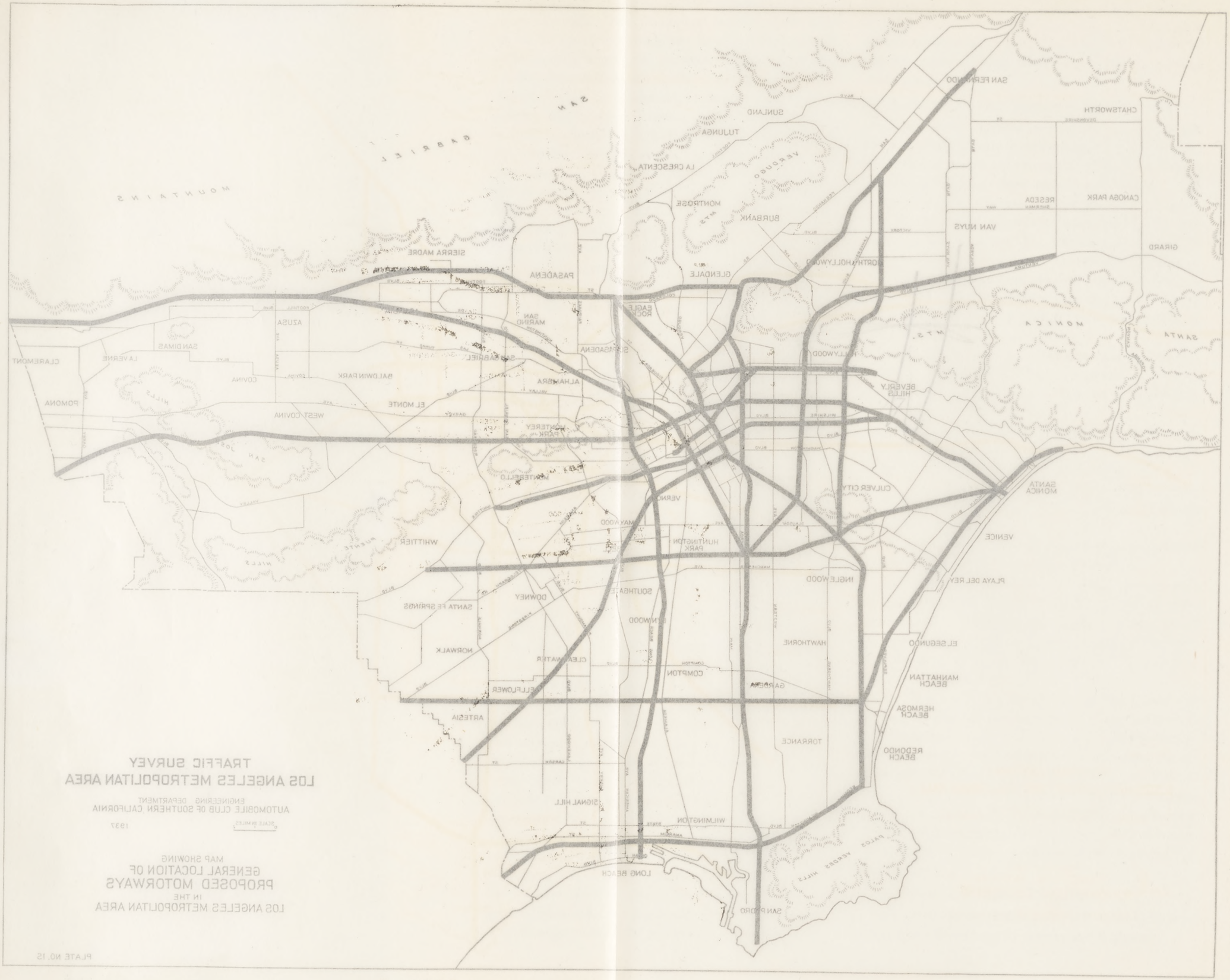


PLATE 16


SAN GABRIEL MOUNTAINS
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PASADENA
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BURBANK
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AZUSA
SAN DIMAS
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LA VERNE
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BALDWIN PARK
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AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
SCALE IN MILES
1937
MAP SHOWING
GENERAL LOCATION OF
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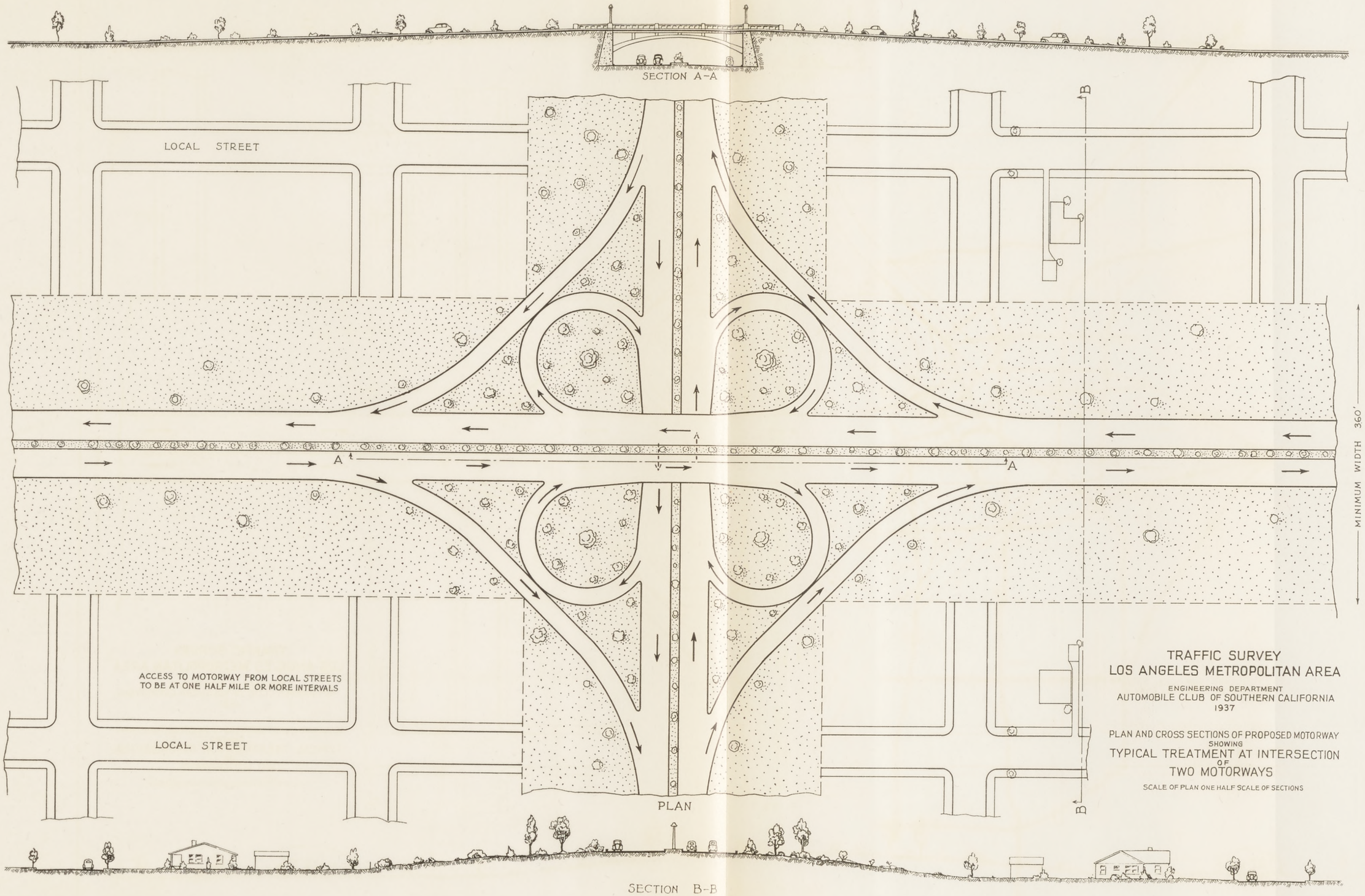
IN THE
LOS ANGELES METROPOLITAN AREA
PLATE NO. 15

PLATE 15



TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

PLAN AND CROSS SECTIONS OF PROPOSED MOTORWAY
SHOWING
TYPICAL TREATMENT AT INTERSECTION
OF
TWO MOTORWAYS

SCALE OF PLAN ONE HALF SCALE OF SECTIONS

PLATE NO. 16

PLATE 16

PLATE NO. 16

SECTION B-B

PLAN

LOCAL STREET

TO BE AT ONE HALF MILE OR MORE INTERVALS
ACCESS TO MOTORWAY FROM LOCAL STREETS

LOS ANGELES METROPOLITAN AREA
TRAFFIC SURVEY
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
ENGINEERING DEPARTMENT
1937

PLAN AND CROSS SECTIONS OF PROPOSED MOTORWAY
SHOWING
TYPICAL TREATMENT AT INTERSECTION
OF
TWO MOTORWAYS

SCALE OF PLAN ONE HALF SCALE OF SECTIONS

B

A

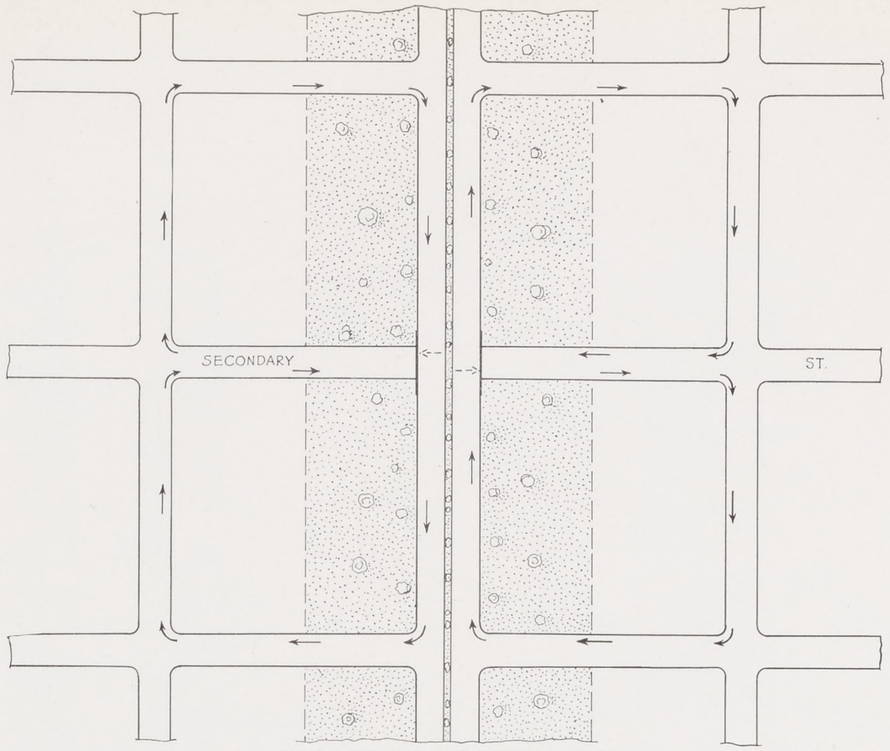
A

B

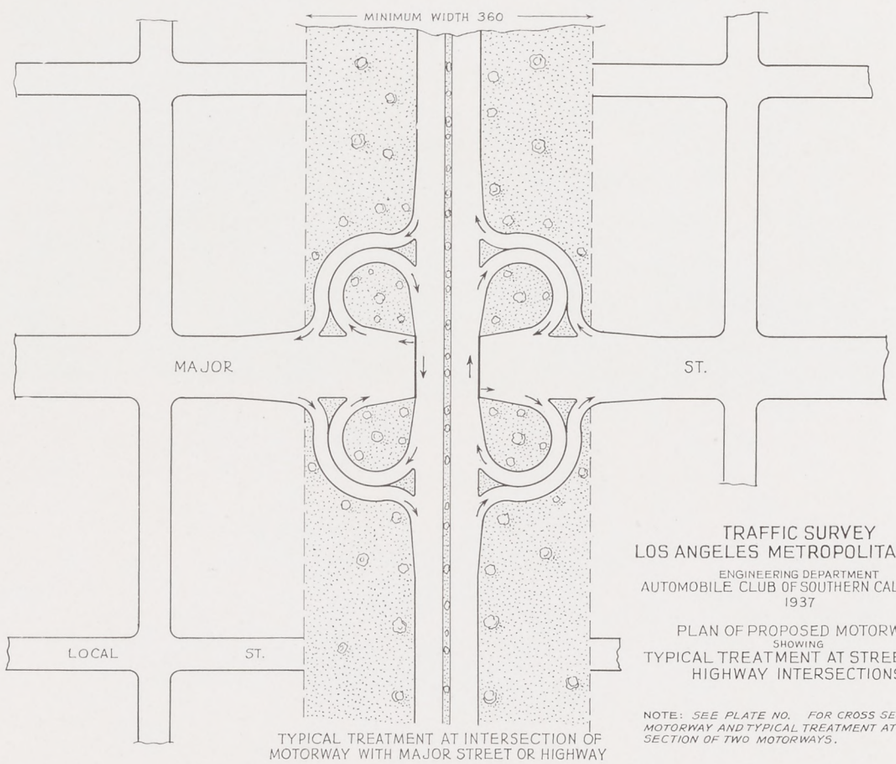
LOCAL STREET

SECTION A-A

MIDIM MUMIXIM 250'



TYPICAL TREATMENT AT INTERSECTION OF
MOTORWAY WITH SECONDARY STREET OR HIGHWAY



TYPICAL TREATMENT AT INTERSECTION OF
MOTORWAY WITH MAJOR STREET OR HIGHWAY

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

PLAN OF PROPOSED MOTORWAY
SHOWING
TYPICAL TREATMENT AT STREET OR
HIGHWAY INTERSECTIONS

NOTE: *SEE PLATE NO. FOR CROSS SECTIONS OF MOTORWAY AND TYPICAL TREATMENT AT INTERSECTION OF TWO MOTORWAYS.*

PLATE NO.17

COMPOSITE PHOTOGRAPH—MOTORWAY BRIDGE OVER TYPICAL COMMERCIAL STREET

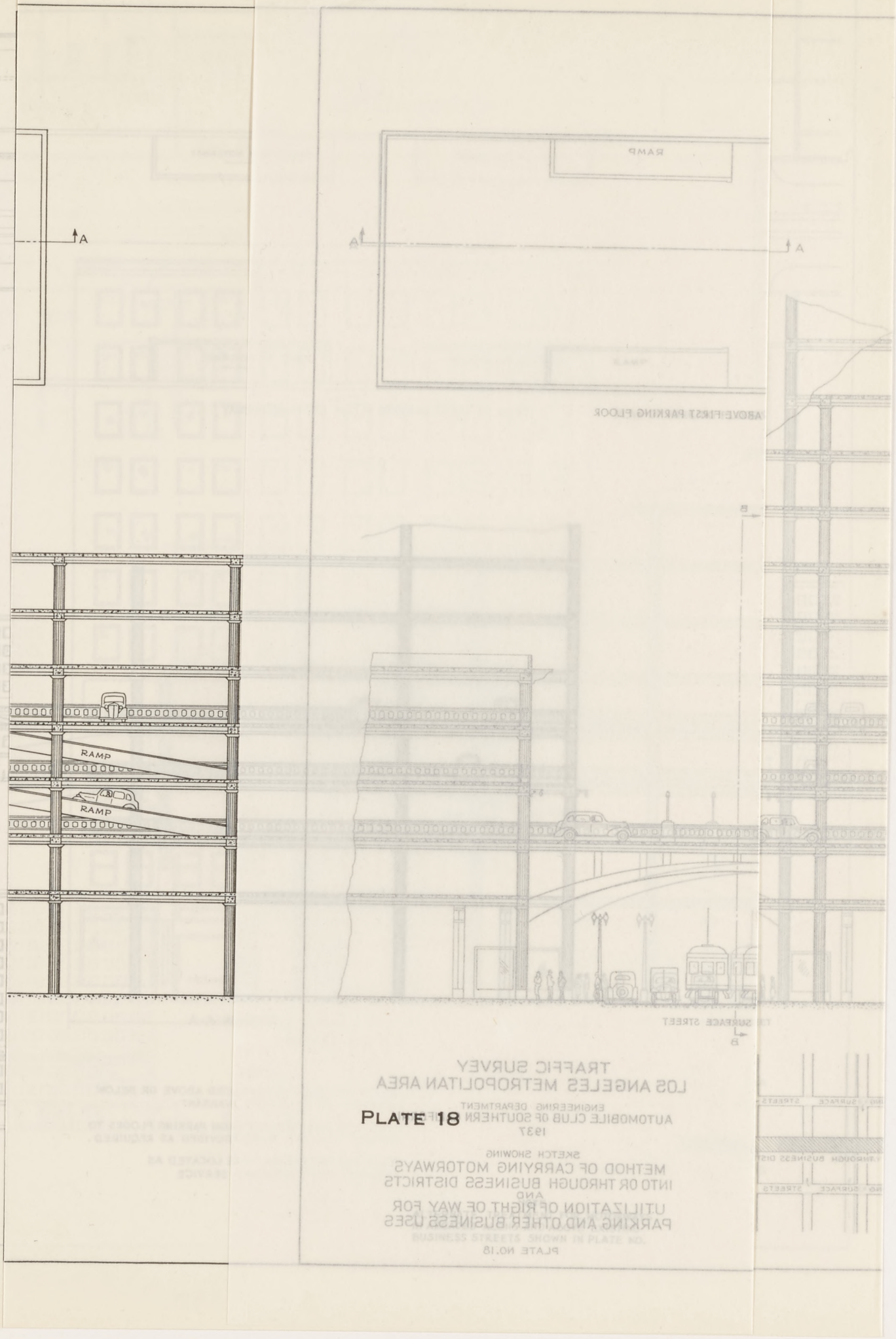
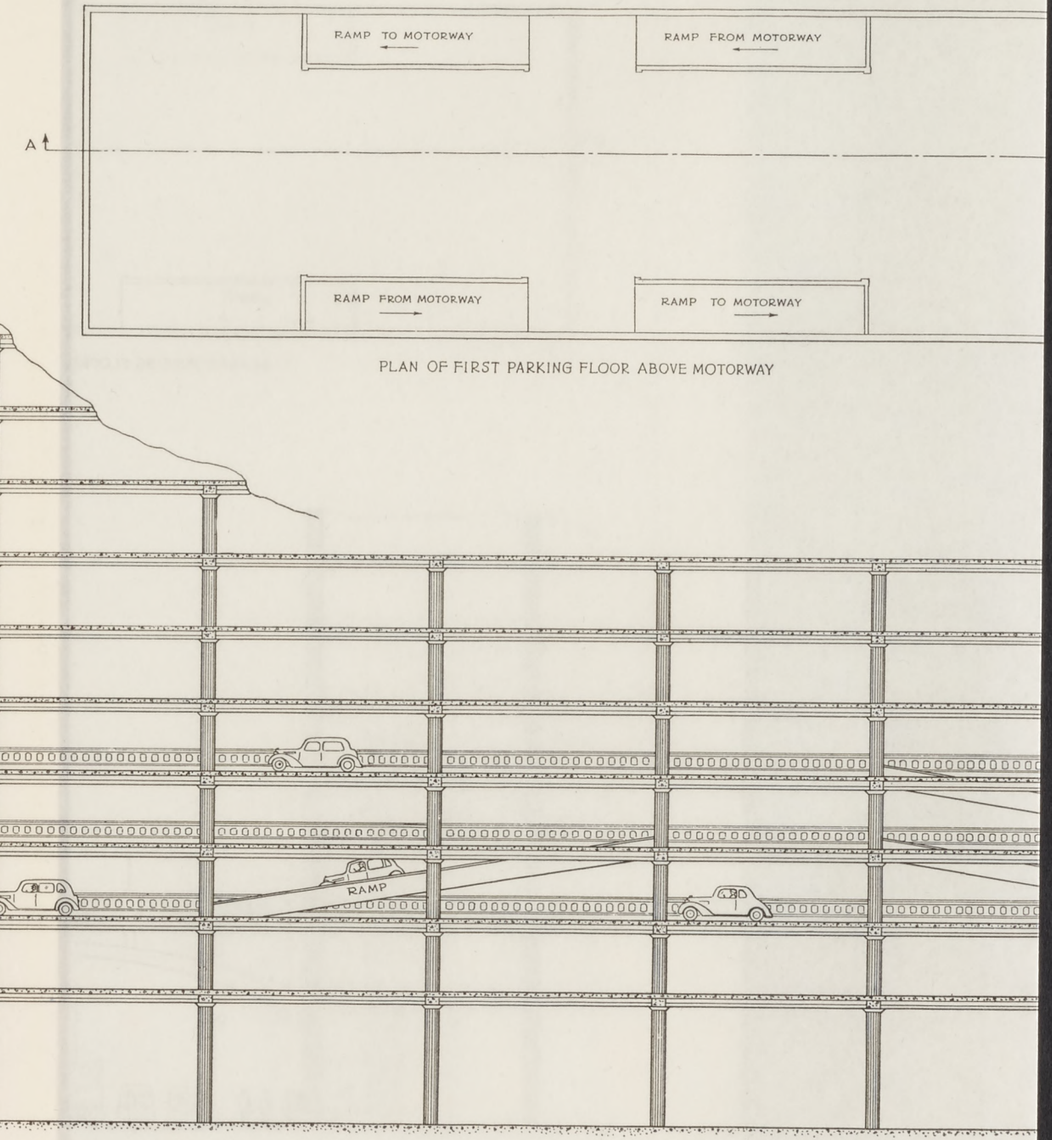


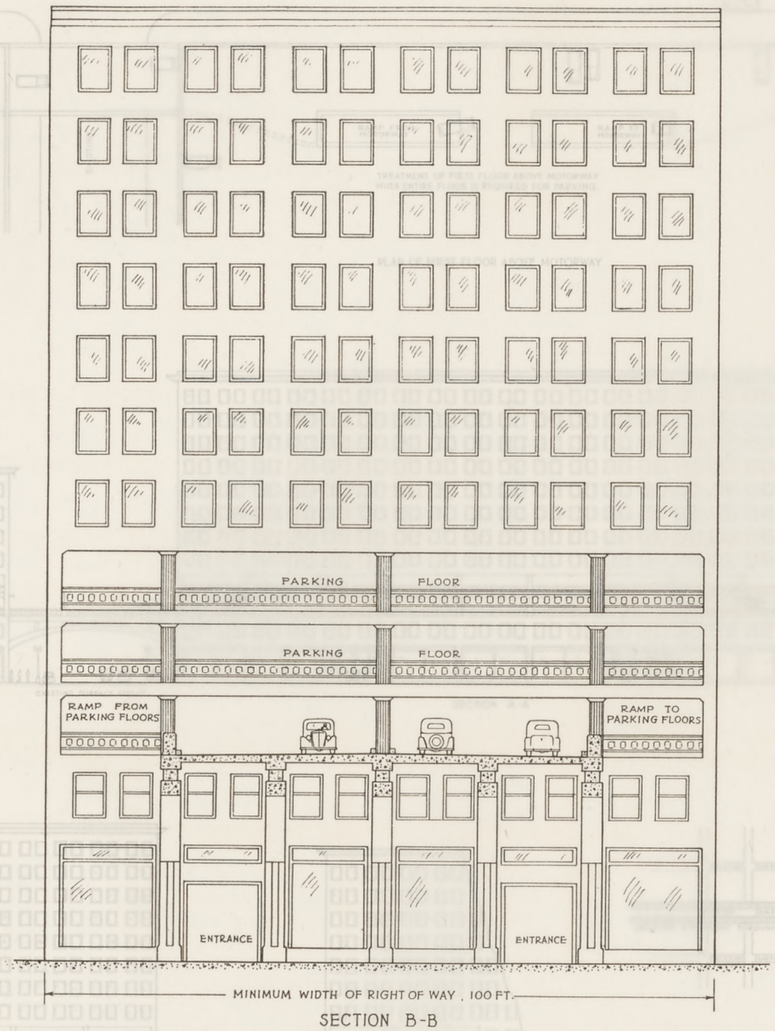
PLATE 18

COMPOSITE PHOTOGRAPH—MOTORWAY BRIDGE OVER TYPICAL COMMERCIAL STREET



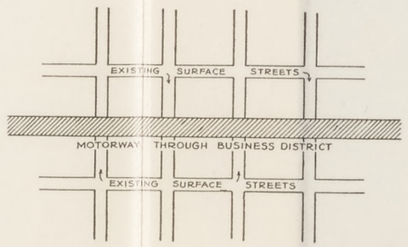
PLAN OF FIRST PARKING FLOOR ABOVE MOTORWAY

SECTION A-A



SECTION B-B

EXISTING SURFACE STREET



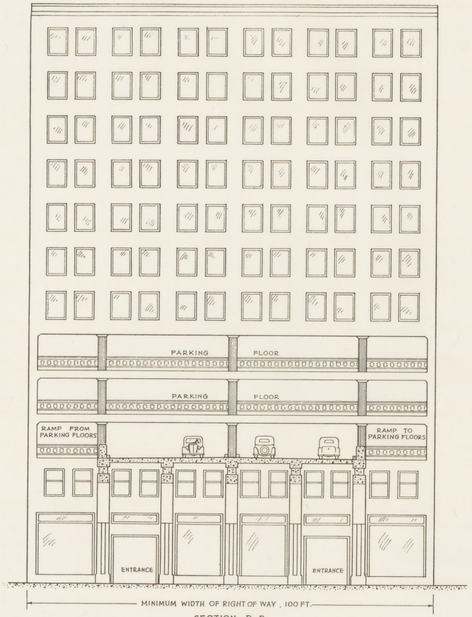
NOTE:

PARKING FLOORS TO BE PLACED ABOVE OR BELOW MOTORWAY AS CONDITIONS WARRANT

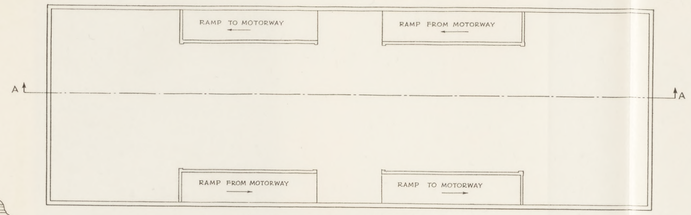
VEHICULAR CONNECTIONS FROM PARKING FLOORS TO SURFACE STREETS TO BE PROVIDED AS REQUIRED.

PASSENGER ELEVATORS TO BE LOCATED AS REQUIRED FOR CONVENIENT SERVICE

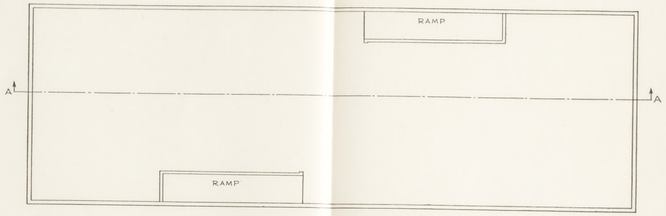
COMPOSITE PHOTOGRAPH—MOTORWAY BRIDGE OVER TYPICAL COMMERCIAL STREET



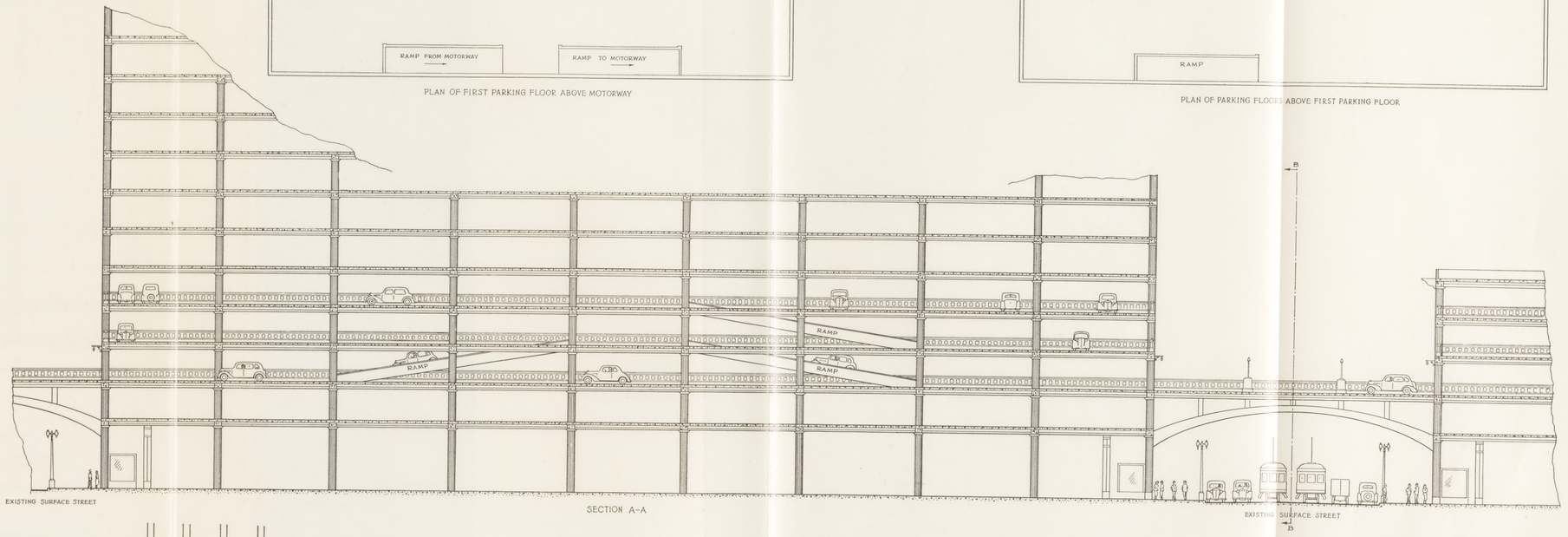
SECTION B-B



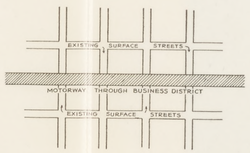
PLAN OF FIRST PARKING FLOOR ABOVE MOTORWAY



PLAN OF PARKING FLOORS ABOVE FIRST PARKING FLOOR



SECTION A-A



NOTE:

PARKING FLOORS TO BE PLACED ABOVE OR BELOW MOTORWAY AS CONDITIONS WARRANT

VEHICULAR CONNECTIONS FROM PARKING FLOORS TO SURFACE STREETS TO BE PROVIDED AS REQUIRED.

PASSENGER ELEVATORS TO BE LOCATED AS REQUIRED FOR CONVENIENT SERVICE

NOTE:

ALTERNATE TREATMENT FOR MOTORWAYS IN ARCADES ALONG AND ABOVE EXISTING BUSINESS STREETS SHOWN IN PLATE NO.

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

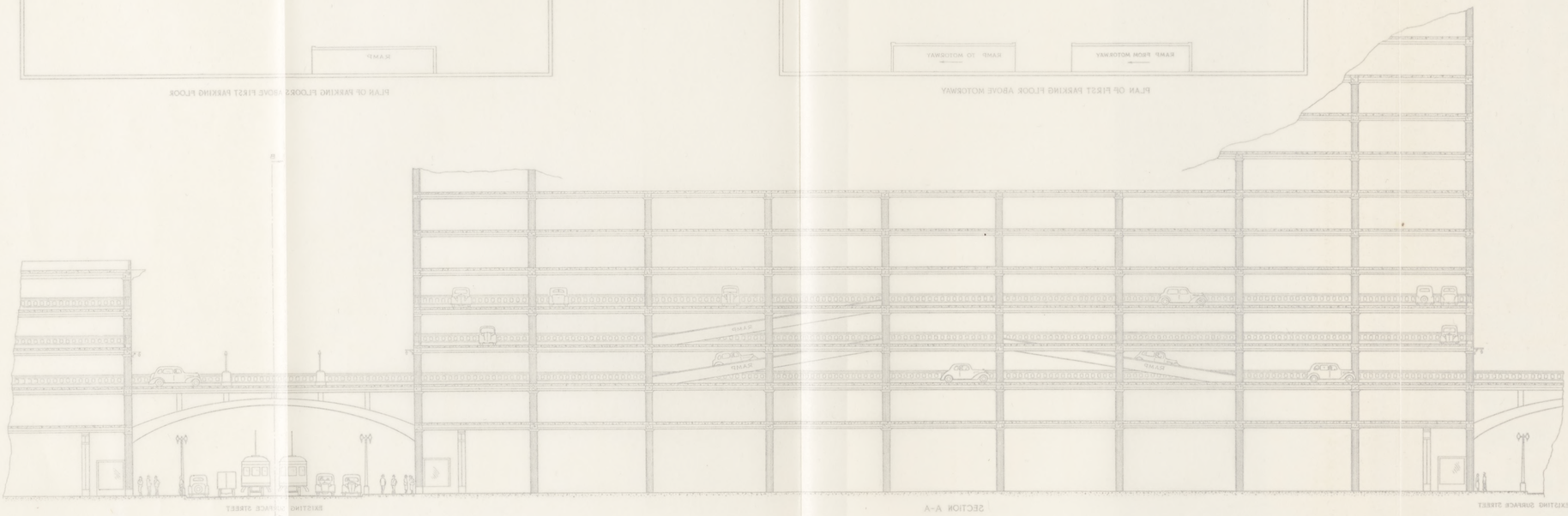
ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

SKETCH SHOWING
METHOD OF CARRYING MOTORWAYS INTO OR THROUGH BUSINESS DISTRICTS
AND
UTILIZATION OF RIGHT OF WAY FOR PARKING AND OTHER BUSINESS USES

PLATE NO. 18

PLAN OF PARKING FLOORS ABOVE FIRST PARKING FLOOR

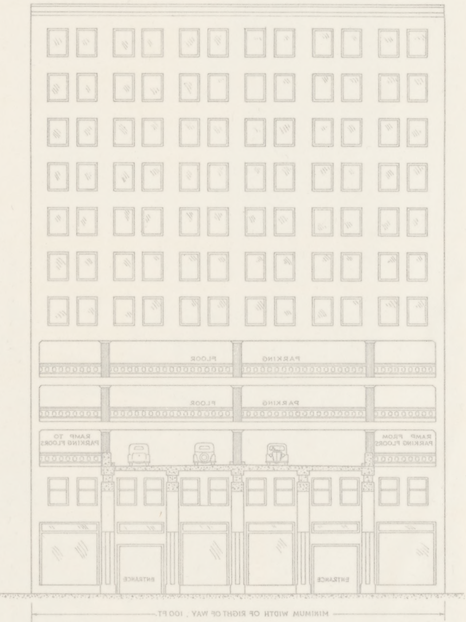
PLAN OF FIRST PARKING FLOOR ABOVE MOTORWAY



EXISTING SURFACE STREET

SECTION A-A

EXISTING SURFACE STREET



SECTION B-B

NOTE:
PARKING FLOORS TO BE PLACED ABOVE OR BELOW MOTORWAY AS CONDITIONS WARRANT

VERTICULAR CONNECTIONS FROM PARKING FLOORS TO SURFACE STREETS TO BE PROVIDED AS REQUIRED.

PASSENGER ELEVATORS TO BE LOCATED AS REQUIRED FOR CONVENIENT SERVICE

NOTE:
ALTERNATE TREATMENT FOR MOTORWAYS IN AREAS ALONG AND ABOVE EXISTING BUSINESS STREETS SHOWN IN PLATE NO.

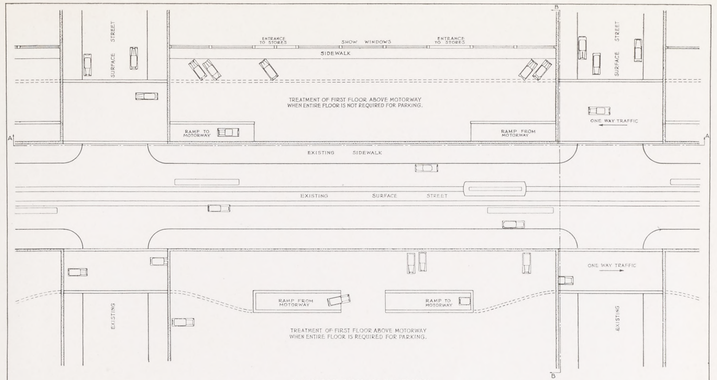
TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

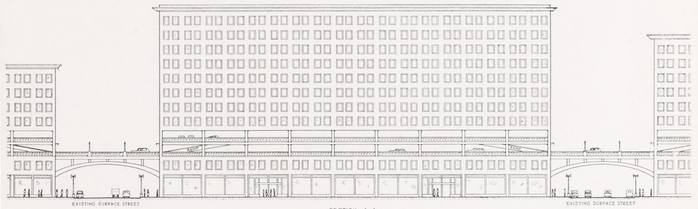
PLATE 18

SKETCH SHOWING
METHOD OF CARRYING MOTORWAYS
INTO OR THROUGH BUSINESS DISTRICTS
AND
UTILIZATION OF RIGHT OF WAY FOR
PARKING AND OTHER BUSINESS USES

PLATE NO.18



PLAN OF FIRST FLOOR ABOVE MOTORWAY



SECTION A-A

SECTION B-B

NOTE:
PARKING FLOORS TO BE PLACED ABOVE OR BELOW MOTORWAYS AS CONDITIONS DEMAND.
VEHICLE RAMPS CONNECTING MOTORWAY WITH PARKING FLOORS TO BE OF ONE WAY TRAFFIC TYPE PROVIDED AS REQUIRED.
INTERSECTIONS OVER SURFACE STREETS AT PARKING FLOOR LEVEL OR RAMPS TO SURFACE STREETS TO BE PROVIDED AS REQUIRED TO PERMIT CHANGE OF DIRECTION OF TRAFFIC ON SURFACE STREETS.
PASSENGER ELEVATORS TO BE LOCATED AS REQUIRED FOR CONVENIENT SERVICE.

TRAFFIC SURVEY
LOS ANGELES METROPOLITAN AREA

ENGINEERING DEPARTMENT
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
1937

SKETCH SHOWING
METHOD OF CARRYING MOTORWAYS INTO OR THROUGH BUSINESS DISTRICTS IN ARCADES ALONG AND ABOVE EXISTING SURFACE STREETS

PLATE NO. 13

b. It is recommended that curb parking on residential streets be restricted in order to prevent shifting of curb parking evils from business centers to adjacent residential sections.

It is suggested that if private initiative does not provide adequate off street parking facilities consideration be given to the acquisition and operation of such facilities wherever needed by a public authority. These parking facilities should be assessed and taxed on the same basis as similar privately owned facilities and the proceeds from tax receipts deposited in the general fund. A uniform parking fee could be assessed against all registered motor vehicles in the Los Angeles area in an amount sufficient to cover the cost of land for parking facilities, and fixed charges such as maintenance, operation and taxes. It may be noted that a parking fee of ten cents a day per registered vehicle would yield in the Los Angeles metropolitan area in excess of $35,000,000 annually. When the necessary land has been acquired the parking fee could be reduced in a substantial amount.

4. Financing.

The basic principle underlying all methods of financing public improvements is that the cost shall be equitably distributed among those benefited by such improvements. This theory is unquestionably sound regardless of whether the benefits are direct or indirect. The use of the automobile as a transportation unit has not altered in any manner this fundamental theory as applied to street and highway financing. Its widespread use has, however, created considerable confusion in the matter of determining and evaluating the direct and indirect benefits as well as in determining the extent of such benefits.

The operation of a network of motorways serving the entire metropolitan area of Los Angeles will increase safety in the operation of motor vehicles and will inevitably bring about a reduction of traffic accidents and loss of life and property damage in such accidents. These motorways will stabilize business and residential sections and will be of enormous benefit to the owners of land and improvements. The saving in motor vehicle operation costs will be great and will be reflected in a lower transportation charge on every commodity used within the area, also in the transportation of people either by private or public conveyance.

We have estimated the cost of the motorways herein recommended as nearly as is possible in the absence of definite knowledge of exact location and detailed design. We have considered the ability of the taxpayers of the Los Angeles area to assume the large financial burden involved, and have answered the question in the affirmative after comparing the estimated cost distributed over a period of years with an estimate of what it is costing today to do without such facilities in loss of human life, injury to persons and property damage, blighted business and residential districts and mounting transportation costs.

Sufficient study has been given to the problem of financing the acquisition and construction of the recommended motorways to convince us that a practicable financing plan can be developed which in its application will not impose undue hardship upon any group of taxpayers within the metropolitan area. However, none of these groups has had an opportunity to either approve or reject the improvements herein recommended for traffic relief, or to discuss any financing plan regardless of the fact that it may be shown that it is costing the citizens of the area more to do without traffic relief than it would to construct a system of motorways as recommended. For this reason no financing plan is included. Continued study will be given to this problem and if and when the citizens of the Los Angeles area express a favorable interest in the recommendations a detailed financing plan can be submitted.

5. Administration.

It is recommended that the acquisition, construction, maintenance and operation of motorways in the Los Angeles area be vested in a metropolitan motorway authority.

Appendix

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TABLE No. 1

TRAFFIC CHECKS AT BOUNDARIES OF CENTRAL BUSINESS DISTRICT

District No. 1

Counts Taken by Automobile Club, November and December 1929 and November and December 1936

FIGURES INDICATE NUMBER OF MOTOR VEHICLES
COUNTED PER 16-HOUR WEEK-DAY — 6 A.M. TO 10 P.M.

STATION	1929 COUNTS			1936 COUNTS		
	In	Out	Total	In	Out	Total
NORTH BOUNDARY						
Flower Street south of Temple	3,130	3,359	6,489	4,246	4,438	8,684
Bunker Hill south of California	166	167	333	132	83	215
California Street east of Bunker Hill	1,097	1,156	2,253	628	501	1,129
Grand Avenue south of Sunset	1,837	1,751	3,588	1,991	1,867	3,858
Hill Street south of Sunset	2,467	1,896	4,363	1,240	1,238	2,478
Broadway south of Sunset	7,133	6,598	13,731	8,291	6,115	14,406
Spring Street south of Sunset		No Street		5,183	5,518	10,701
New High Street south of Sunset	3,377	2,979	6,356	444	649	1,093
Main Street south of Plaza	10,085	7,873	17,958	8,755	6,449	15,204
Los Angeles Street south of Aliso	10,304	11,211	21,515	12,509	11,294	23,803
Sub-total North Boundary	39,596	36,990	76,586	43,419	38,152	81,571
Per Cent Increase				9.7%	3.1%	6.5%
EAST BOUNDARY						
Commercial Street west of San Pedro	1,593	1,482	3,075	1,526	1,279	2,805
Market Street west of San Pedro	2,142	2,002	4,144	1,178	2,618	3,796
1st Street west of San Pedro	5,446	4,677	10,123	5,380	4,902	10,282
Weller Street west of San Pedro	3,712	4,391	8,103	3,955	4,600	8,555
2nd Street west of San Pedro	4,115	5,706	9,821	5,420	5,742	11,162
3rd Street west of San Pedro	5,478	5,004	10,482	6,542	5,602	12,144
Boyd Street west of San Pedro	1,184	1,511	2,695	613	657	1,270
4th Street west of San Pedro	3,867	3,462	7,329	3,829	3,505	7,334
Winston Street west of San Pedro	1,419	1,457	2,876	801	1,040	1,841
5th Street west of San Pedro	3,543	4,201	7,744	3,762	4,201	7,963
6th Street west of San Pedro	5,632	5,307	10,939	8,304	7,718	16,022
7th Street west of San Pedro	7,209	6,030	13,239	6,263	5,736	11,999
8th Street west of San Pedro	6,697	6,460	13,157	7,777	6,688	14,465
9th Street west of San Pedro	9,510	7,903	17,413	9,679	7,001	16,680
11th Street west of San Pedro	2,356	3,048	5,404	2,724	2,821	5,545
12th Street west of San Pedro	4,327	4,241	8,568	4,169	3,981	8,150
Pico Street west of San Pedro	3,406	3,813	7,219	3,616	4,095	7,711
15th Street west of San Pedro	1,870	1,391	3,261	2,519	1,544	4,063
16th Street west of San Pedro	3,884	3,901	7,785	2,861	3,657	6,518
Sub-total East Boundary	77,390	75,987	153,377	80,918	77,387	158,305
Per Cent Increase				4.6%	1.8%	3.2%
SOUTH BOUNDARY						
Maple Avenue north of Washington	3,793	3,679	7,472	4,444	3,617	8,061
Santee Street north of Washington	2,529	2,314	4,843	1,835	1,150	2,985
Los Angeles Street north of Washington	6,404	7,553	13,957	5,189	6,252	11,441
Main Street north of Washington	10,671	10,032	20,703	7,687	7,844	15,531
Broadway north of Washington		No Street		7,354	5,503	12,857
Hill Street north of Washington	10,715	8,136	18,851	6,425	5,075	11,500
Olive Street north of Washington		No Street		3,751	4,838	8,589
Grand Avenue north of Washington	6,400	5,982	12,382	4,761	4,754	9,515
Hope Street north of Washington	3,202	3,775	6,977	3,472	4,164	7,636
Flower Street north of Washington	2,723	4,105	6,828	9,843	7,288	17,131
Sub-total South Boundary	46,437	45,576	92,013	54,761	50,485	105,246
Per Cent Increase				17.9%	10.8%	14.4%
WEST BOUNDARY						
18th Street east of Figueroa	2,872	2,932	5,804	2,444	2,418	4,862
Venice Blvd. east of Figueroa	6,359	5,988	12,347	6,699	6,309	13,008
Pico Street east of Figueroa	9,962	9,775	19,737	9,871	8,622	18,493
12th Street east of Figueroa	7,003	6,712	13,715	6,835	6,426	13,261
11th Street east of Figueroa	4,277	4,403	8,680	3,642	3,843	7,485
Olympic Blvd. east of Figueroa	4,933	5,808	10,741	4,876	5,580	10,456
9th Street east of Figueroa	6,271	7,429	13,700	4,956	6,118	11,074
8th Street east of Figueroa	9,565	10,365	19,930	9,862	11,537	21,399
7th Street east of Figueroa	10,885	9,583	20,468	7,333	7,642	14,975
Wilshire Blvd. east of Figueroa		No Street		10,326	8,527	18,853
6th Street east of Figueroa	8,621	7,739	16,360	6,837	6,615	13,452
5th Street east of Figueroa	8,438	6,491	14,929	6,077	6,598	12,675
4th Street east of Figueroa	2,794	1,910	4,704	1,604	1,261	2,865
3rd Street east of Figueroa	4,685	6,206	10,891	7,785	8,595	16,380
2nd Street east of Figueroa	10,642	9,112	19,754	11,917	10,098	22,015
1st Street east of Figueroa	4,892	5,046	9,938	4,801	5,028	9,829
Temple Street east of Flower	3,551	4,249	7,800	8,779	8,025	16,804
Sub-total West Boundary	105,750	103,748	209,498	114,644	113,242	227,886
Per Cent Increase				8.4%	9.2%	8.8%
GRAND TOTAL	**269,173**	**262,301**	**531,474**	**293,742**	**279,266**	**573,008**
Per Cent Increase				9.1%	6.5%	7.8%

TABLE No. 2

TRAFFIC CHECKS AT BOUNDARIES OF OUTER CONGESTED DISTRICT

District No. 2

Counts Taken by Automobile Club of Southern California in 1929-30 and in 1937

FIGURES INDICATE NUMBER OF MOTOR VEHICLES
COUNTED PER 16-HOUR WEEK-DAY — 6 A.M. TO 10 P.M.

STATION	1929-1930 COUNTS			1936-1937 COUNTS		
	In	Out	Total	In	Out	Total
NORTH BOUNDARY						
Glendale Blvd. south of Alvarado	7,593	7,696	15,289	8,839	8,959	17,798
Broadway at Los Angeles River Bridge	13,670	12,840	26,510			
Broadway at Solano				20,400	19,208	39,608
Spring Street at Los Angeles River Bridge	9,325	9,892	19,217	10,655	10,549	21,204
Main Street at Los Angeles River Bridge	6,792	7,028	13,820	7,967	7,636	15,603
Sub-total North Boundary	37,380	37,456	74,836	47,861	46,352	94,213
Per Cent Increase				28.0%	23.8%	25.9%
EAST BOUNDARY						
Macy Street at Los Angeles River Bridge	14,416	12,997	27,413	9,375	7,620	16,995*
Aliso Street at Los Angeles River Bridge	3,178	4,106	7,284	9,291	10,137	19,428
1st Street at Los Angeles River Bridge	5,776	5,431	11,207	8,746	8,526	17,272
4th Street at Los Angeles River Bridge	3,809	3,773	7,582	6,664	6,551	13,215
6th Street at Los Angeles River Bridge				7,250	7,268	14,518
7th Street at Los Angeles River Bridge	8,792	8,605	17,397	6,329	7,668	13,997
Olympic Blvd. at Los Angeles River Bridge	13,607	13,554	27,161	14,164	14,164	28,328*
Washington Blvd. at Los Angeles River Bridge				1,893	1,894	3,787
Sub-total East Boundary	49,578	48,466	98,044	63,712	63,828	127,540
Per Cent Increase				28.5%	31.7%	30.1%
SOUTH BOUNDARY						
Santa Fe Avenue north of 26th Street	10,804	9,845	20,649	12,092	10,939	23,031
Alameda Street south of 25th Street	10,857	11,481	22,338	10,481	11,255	21,736
Long Beach Avenue north of 38th Street	3,029	3,165	6,194	5,193	5,999	11,192
Compton Avenue north of 38th Street	1,069	1,056	2,125	863	863	1,726
Hooper Avenue north of 38th Street	3,787	3,955	7,742	4,224	4,116	8,340
Central Avenue north of 34th Street	7,338	7,323	14,661	9,084	8,959	18,043
Griffith Avenue north of Jefferson	2,937	2,985	5,922	2,755	3,286	6,041
San Pedro Street north of Jefferson	9,420	9,260	18,680	11,632	10,118	21,750
Trinity Street north of Jefferson	472	450	922	500	500	1,000
Maple Avenue north of Jefferson	3,374	3,279	6,653	2,093	2,181	4,274
Main Street north of Jefferson	11,256	10,175	21,431	8,181	8,277	16,458
Broadway north of Jefferson				9,581	7,533	17,114
Hill Street north of Jefferson	10,478	9,707	20,185	5,234	6,229	11,463
Grand Avenue north of Jefferson	4,253	4,107	8,360	2,190	2,282	4,472
Flower Street north of Jefferson				9,406	7,216	16,622
Figueroa Street north of Jefferson	15,004	14,501	29,505	8,897	10,494	19,391
University Avenue north of Jefferson	564	535	1,099	1,140	1,140	2,280
Sub-total South Boundary	94,642	91,824	186,466	103,546	101,387	204,933
Per Cent Increase				9.4%	10.4%	9.9%
WEST BOUNDARY						
32nd Street east of Hoover				1,592	1,592	3,184
30th Street east of Severance	1,598	1,539	3,137	1,000	1,000	2,000
28th Street east of Hoover	1,024	964	1,988	1,000	1,000	2,000
Adams Street east of Hoover	6,740	6,821	13,561	7,863	7,898	15,761
25th Street east of Hoover	435	387	822	450	450	900
24th Street east of Hoover	84	76	160	100	100	200
Union Avenue north of 23rd Street	2,983	2,729	5,712	3,210	2,700	5,910
23rd Street east of Union	2,715	2,568	5,283	2,240	2,449	4,689
22nd Street east of Hoover	232	226	458	230	230	460
21st Street east of Hoover	160	153	313	160	160	320
20th Street east of Hoover	329	327	656	350	350	700
Burlington Avenue north of Hoover	1,196	1,160	2,356	1,200	1,200	2,400
Washington Blvd. east of Hoover	10,298	9,691	19,989	12,466	12,701	25,167
Venice Blvd. east of Hoover	6,829	6,417	13,246	7,844	6,674	14,518
Alvarado Terrace east of Alvarado	472	450	922	500	500	1,000
Westlake Avenue east of Alvarado	472	450	922	500	500	1,000
Pico Street east of Alvarado	8,464	8,176	16,640	9,286	8,334	17,620
12th Street east of Alvarado	4,994	4,633	9,627	4,538	4,450	8,988
11th Street east of Alvarado	2,800	2,705	5,505	2,076	2,286	4,362
Olympic Blvd. east of Alvarado	2,701	2,970	5,671	2,351	3,647	5,998
9th Street east of Alvarado	5,725	5,575	11,300	4,941	5,350	10,291
8th Street east of Alvarado	8,388	9,304	17,692	11,515	12,794	24,309
7th Street east of Alvarado	11,568	10,518	22,086	6,789	6,789	13,578
Wilshire east of Alvarado	2,241	2,526	4,767	13,652	12,934	26,586
6th Street east of Alvarado	12,389	11,343	23,732	8,331	8,297	16,628
3rd Street east of Alvarado	1,588	1,590	3,178	12,137	9,639	21,776
Beverly Blvd. east of Alvarado	15,009	15,002	30,011	12,798	13,534	26,332
Temple Street east of Alvarado	5,344	6,113	11,457	8,181	7,902	16,083
Sunset Blvd. east of Alvarado	13,732	12,615	26,347	13,455	13,066	26,521
Reservoir Street east of Alvarado	957	880	1,837	644	626	1,270
Sub-total West Boundary	131,467	127,908	259,375	151,399	149,152	300,551
Per Cent Increase				15.2%	16.6%	15.9%
GRAND TOTAL	**313,067**	**305,654**	**618,721**	**366,518**	**360,719**	**727,237**
Per Cent Increase				17.1%	18.0%	17.5%

*Road under Construction.

TABLE No. 3

TRAFFIC CHECKS AT BOUNDARIES OF RESIDENTIAL DISTRICT

District No. 3

Counts Taken by Automobile Club in 1930 and in March and April 1937

FIGURES INDICATE NUMBER OF MOTOR VEHICLES
COUNTED PER 16-HOUR WEEK-DAY — 6 A.M. TO 10 P.M.

STATION	1930 COUNTS			1937 COUNTS		
	In	Out	Total	In	Out	Total
NORTH BOUNDARY						
Western Avenue north of Los Feliz				684	883	1,567
Vermont Avenue north of Los Feliz				980	1,316	2,296
Griffith Park Blvd. north of Los Feliz				701	979	1,680
Riverside Drive north of Los Feliz				7,498	6,574	14,072
Los Feliz east of Los Angeles River	7,400	7,740	15,140	11,632	11,449	23,081
Hyperion north of Waverly	2,598	2,640	5,238	4,829	4,785	9,614
Glendale north of Riverside Drive	5,574	5,427	11,001	6,424	6,062	12,486
Fletcher Drive north of Riverside Drive	7,819	7,615	15,434	13,263	12,901	26,164
San Fernando Road at Cazader	9,885	9,761	19,646	13,711	13,301	27,012
Figueroa Street at Avenue 49	10,850	11,369	22,219	11,159	11,077	22,236
Monterey Road south of Pullman				3,773	3,843	7,616
Sub-total North Boundary	44,126	44,552	88,678	74,654	73,170	147,824
Per Cent Increase				69.2%	64.2%	66.7%
EAST BOUNDARY						
Huntington Drive west of Poplar	11,878	11,459	23,337	10,776	10,660	21,436
Valley Blvd. west of Alhambra Avenue	8,227	7,933	16,160	9,515	8,313	17,828
Ramona Blvd. west of Monterey Pass				7,237	7,238	14,475†
Garvey Avenue at Monterey Pass	3,667	3,651	7,318	2,231	2,058	4,289
East 3rd Street west of Atlantic Avenue				881	836	1,717
Beverly Blvd. west of Atlantic Avenue				3,233	3,027	6,260
Whittier Blvd. west of Atlantic Ave	6,772	6,330	13,102	7,908	7,379	15,287
9th Street west of Atlantic Avenue	2,898	3,309	6,207	5,463	5,648	11,111
Anaheim-Telegraph Road west of Atlantic Avenue	2,696	2,626	5,322	4,501	4,502	9,003†
Washington Blvd. west of Atlantic Avenue				586	553	1,139
Bandini Blvd. west of Atlantic Avenue	1,060	905	1,965	1,625	595	2,220
District Blvd. west of Atlantic Avenue	2,933	2,845	5,778	3,119	3,026	6,145
Sub-total East Boundary	40,131	39,058	79,189	57,075	53,835	110,910
Per Cent Increase				42.2%	37.8%	40.1%
SOUTH BOUNDARY						
Maywood Avenue north of Slauson	865	809	1,674	1,801	1,594	3,395
Downey Road north of Slauson	3,364	3,422	6,786	2,272	2,472	4,744
Boyle Avenue north of Slauson	686	648	1,334	3,258	2,556	5,814
Soto Street north of Slauson				7,101	7,795	14,896
Pacific Avenue north of Slauson	8,174	7,348	15,522	5,845	6,375	12,220
Alameda Street north of Slauson	9,038	9,491	18,529	9,990	9,325	19,323
Santa Fe Avenue north of Slauson	6,807	6,634	13,441	7,394	7,410	14,804
Long Beach Avenue north of Slauson	831	1,155	1,986	1,801	2,582	4,383
Compton Avenue north of Slauson	3,717	3,726	7,443	2,693	2,405	5,098
Central Avenue north of Slauson	5,943	5,759	11,702	5,791	5,997	11,788
Avalon Blvd. north of Slauson	8,342	7,891	16,233	8,152	7,250	15,402
San Pedro Street north of Slauson				3,055	2,560	5,615
Main Street north of Slauson	7,175	7,358	14,533	7,553	8,070	15,623
Broadway north of Slauson	7,893	8,049	15,942	8,200	8,034	16,234
Figueroa Street north of Slauson	12,149	11,998	24,147	14,291	13,814	28,105
Hoover Street north of Slauson	4,377	4,327	8,704	5,732	5,229	10,961
Vermont Avenue north of Slauson	8,697	8,694	17,391	9,024	8,841	17,865
Normandie Avenue north of Slauson	3,496	3,497	6,993	4,585	4,335	8,920
Western Avenue north of Slauson	8,765	8,681	17,446	10,107	10,120	20,227
Sub-total South Boundary	100,319	99,487	199,806	118,653	116,764	235,417
Per Cent Increase				18.3%	17.4%	17.8%
WEST BOUNDARY						
54th Street west of Arlington	3,045	3,098	6,143	3,198	3,943	7,141
48th Street west of Arlington	2,401	2,385	4,786	2,650	2,653	5,303
Vernon Avenue west of Arlington	3,661	3,766	7,427	3,942	3,802	7,744
Santa Barbara Avenue west of Arlington	4,231	4,165	8,396	8,499	7,602	16,101
Rodeo Road west of Arlington				1,761	1,754	3,515
Jefferson west of Arlington	6,170	6,206	12,376	6,274	6,052	12,326
Adams west of Arlington	7,109	6,925	14,034	8,138	7,785	15,923
Washington Boulevard west of Arlington	10,158	10,191	20,349	10,016	10,961	20,977
Venice west of Arlington	5,361	5,189	10,550	8,999	8,085	17,084
Pico Blvd. west of Arlington	10,900	10,850	21,750	10,762	10,082	20,844
Olympic west of Wilton Place	4,211	4,232	8,443	5,701	5,646	11,347
8th Street west of Wilton Place	1,586	1,446	3,032	7,844	8,576	16,420
Wilshire west of Van Ness	22,903	20,924	43,827	19,085	18,702	37,787
6th Street west of Van Ness	2,572	2,714	5,286	3,427	3,496	6,923
3rd Street west of Van Ness	7,792	7,387	15,179	13,561	11,288	24,849
Beverly Blvd. west of Van Ness	11,330	11,542	22,872	12,526	12,360	24,886
Melrose west of Van Ness	10,804	9,621	20,425	10,867	9,187	20,054
Santa Monica west of Van Ness	8,987	8,331	17,318	11,653	11,678	23,331
Sunset Blvd. west of Van Ness	11,779	11,649	23,428	15,603	15,950	31,553
Hollywood west of Van Ness	9,715	10,783	20,498	9,822	10,445	20,267
Franklin Avenue west of Van Ness	5,560	6,866	12,426	7,133	8,595	15,728
Sub-total West Boundary	150,275	148,270	298,545	181,461	178,642	360,103
Per Cent Increase				20.8%	20.5%	20.6%
GRAND TOTAL	**334,851**	**331,367**	**666,218**	**431,843**	**422,411**	**854,254**
Per Cent Increase				29.0%	27.5%	28.2%

†State Count, July, 1936.

TABLE No. 4

TRAFFIC CHECKS AT BOUNDARIES OF SUBURBAN DISTRICT

District No. 4

Counts Taken by Automobile Club of Southern California in May 1930 and April 1937

FIGURES INDICATE NUMBER OF MOTOR VEHICLES
COUNTED PER 16-HOUR WEEK-DAY — 6 A.M. TO 10 P.M.

STATION	1930 COUNTS			1937 COUNTS		
	In	Out	Total	In	Out	Total
NORTH BOUNDARY						
Lankershim Blvd. north of Sherman Way	1,914	2,042	3,956	2,471	2,369	4,840
San Fernando Road south of Radford	3,127	3,118	6,245	4,447	4,448	8,895†
Sunland Blvd. north of San Fernando Road	1,130	1,029	2,159	2,145	2,030	4,175
Verdugo Road south of La Crescenta Avenue	3,988	4,258	8,246	6,447	6,399	12,846
La Canada-Verdugo Road, Flintridge	1,978	2,101	4,079	2,862	2,862	5,724†
Sub-total North Boundary	12,137	12,548	24,685	18,372	18,108	36,480
Per Cent Increase				51.4%	44.3%	47.8%
EAST BOUNDARY						
Sierra Madre Blvd. west of Sierra Madre Avenue		No Road		895	754	1,649
Foothill Blvd. west of Rosemead	2,906	2,336	5,242	3,435	3,436	6,871
Colorado Street west of Rosemead		No Road		6,408	6,408	12,816†
Huntington Drive west of Rosemead	2,929	3,037	5,966	3,890	3,570	7,460
San Pasqual Street west of Rosemead				380	430	810
Duarte Road west of Rosemead	742	698	1,440	975	800	1,775
Las Tunas Drive west of Rosemead	1,254	1,308	2,562	2,185	2,410	4,595
Broadway west of Rosemead	495	468	963	990	895	1,885
Mission Drive west of Rosemead	982	852	1,834	1,135	1,135	2,270
Valley Blvd. west of Rosemead	4,259	4,083	8,342	5,503	5,601	11,104
Garvey Avenue west of Rosemead	2,133	2,052	4,185	7,330	7,330	14,660†
Syphon Avenue west of Rosemead	1,089	991	2,080	900	900	1,800
Beverly Blvd. west of San Gabriel Avenue	1,116	1,195	2,311	2,166	1,726	3,892
Whittier Blvd. west of San Gabriel Blvd.	6,992	8,356	15,348	5,274	5,274	10,548†
Telegraph Road west of San Gabriel Blvd.	3,224	3,239	6,463	3,215	2,850	6,065
Easy Street west of San Gabriel Blvd.	579	709	1,288	613	709	1,322
Firestone Blvd. west of Woodruff	738	792	1,530	2,780	2,779	5,559†
Imperial Highway west of Woodruff	778	831	1,609	855	740	1,595
Sub-total East Boundary	30,216	30,947	61,163	48,929	47,747	96,676
Per Cent Increase				61.9%	54.3%	58.1%
SOUTH BOUNDARY						
Somerset Avenue north of Compton Blvd.				851	507	1,358
Lakewood Blvd. north of Compton Blvd.	575	583	1,158	560	797	1,357
Paramount Blvd. north of Compton Blvd.	2,085	2,271	4,356	3,054	3,036	6,090
Michigan Avenue north of Compton Blvd.	922	1,129	2,051	1,439	1,315	2,754
Orange Avenue north of Compton Blvd.				218	306	524
Atlantic Blvd. north of Compton Blvd.	3,199	3,172	6,371	4,246	4,498	8,744
Long Beach Blvd. north of Compton Blvd.	7,965	8,319	16,284	7,380	7,327	14,707
Alameda Street north of Compton Blvd.	4,881	5,416	10,297	3,477	4,484	7,961*
Willowbrook Avenue north of Compton Blvd.				1,575	1,703	3,278
Wilmington Avenue north of Compton Blvd.	1,262	1,159	2,421	1,357	1,028	2,385
Central Avenue north of Compton Blvd.	1,354	1,333	2,687	900	1,077	1,977
Avalon Blvd. north of Compton Blvd.	1,288	1,486	2,774	2,091	2,022	4,113
San Pedro Street north of Compton Blvd.				1,745	1,535	3,280
Main Street north of Redondo Beach Blvd.	1,741	2,154	3,895	1,409	1,409	2,818
Broadway north of Redondo Beach Blvd.	1,276	1,040	2,316	860	700	1,560
Figueroa Street north of Redondo Beach Blvd.				2,556	2,580	5,136
Vermont Avenue north of Redondo Beach Blvd.	3,930	4,163	8,093	3,312	3,371	6,683
Western Avenue north of Redondo Beach Blvd.	2,335	2,440	4,775	2,632	2,506	5,138
Crenshaw Blvd. north of Redondo Beach Blvd.				416	441	857
Prairie Avenue north of Redondo Beach Blvd.	831	834	1,665	597	577	1,174
Hawthorne Avenue north of Redondo Beach Blvd.	1,350	1,543	2,893	1,824	1,825	3,649†
Inglewood Avenue north of Redondo Beach Blvd.	351	386	737	438	416	854
Sub-total South Boundary	35,345	37,428	72,773	42,937	43,460	86,397
Per Cent Increase				21.5%	16.1%	18.7%
WEST BOUNDARY						
Center Street east of Inglewood-Redondo Road	305	306	611	340	340	680
Rosecrans Avenue east of Inglewood-Redondo Road	428	422	850	700	700	1,400
El Segundo Blvd. east of Inglewood-Redondo Road	598	701	1,299	452	593	1,045
Imperial Highway east of Inglewood-Redondo Road	928	933	1,861	2,384	2,301	4,685
Century Blvd. east of Inglewood-Redondo Road				148	122	270
Arbor Vitae Street east of Inglewood-Redondo Road				185	233	418
Manchester Avenue east of Inglewood-Redondo Road				2,176	2,536	4,712
Redondo Blvd. north of Manchester Avenue	821	898	1,719	1,238	1,015	2,253
Centinela Blvd. east of La Tijera	1,994	2,337	4,331	1,330	1,675	3,005
La Tijera and Slauson west of La Brea	1,353	1,511	2,864	6,038	6,090	12,128
Washington Blvd. west of National	9,028	9,660	18,688	5,737	5,605	11,342*
Venice Blvd. west of National	3,615	3,465	7,080	9,577	9,384	18,961
National Blvd. west of Robertson	1,783	1,874	3,657	2,230	2,560	4,790
Pico Blvd. east of Beverly Drive	8,173	8,301	16,474	11,123	11,008	22,131
Olympic Blvd. west of Doheny Drive				7,685	8,561	16,246
Wilshire Blvd. west of Doheny Drive	13,614	12,734	26,348	15,654	14,973	30,627
Burton Way west of Doheny Drive	2,195	1,950	4,145	5,888	4,530	10,418
3rd Street west of Doheny Drive				1,088	2,040	3,128
Santa Monica Blvd. west of Doheny Drive	11,037	11,110	22,147	15,038	15,228	30,266
Sunset Blvd. west of Holloway Drive	5,536	5,702	11,238	11,704	12,056	23,760
Laurel Canyon Blvd. north of Hollywood Blvd.	1,802	1,675	3,477	4,348	4,344	8,692
Ventura Blvd. east of Laurel Canyon Blvd.	4,289	4,054	8,343	6,408	6,018	12,426
Moorpark Street east of Laurel Canyon Blvd.				773	680	1,453
Riverside Drive east of Laurel Canyon Blvd.	740	717	1,457	1,922	1,949	3,871
Magnolia Blvd. east of Laurel Canyon Blvd.	576	645	1,221	1,660	1,660	3,320
Chandler Blvd. east of Laurel Canyon Blvd.	753	866	1,619	1,337	1,338	2,675
Burbank Blvd. east of Laurel Canyon Blvd.	514	567	1,081	765	765	1,530
Oxnard Street east of Laurel Canyon Blvd.	233	202	435	420	420	840
Victory Blvd. east of Laurel Canyon Blvd.	1,112	1,126	2,238	2,245	2,245	4,490
Van Owen Street east of Laurel Canyon Blvd.	553	532	1,085	857	858	1,715
Sherman Way west of Lankershim Blvd.	145	147	292	402	359	761
Sub-total West Boundary	72,125	72,435	144,560	121,852	122,186	244,038
Per Cent Increase				68.9%	68.7%	68.8%
GRAND TOTAL	**149,823**	**153,358**	**303,181**	**232,090**	**231,501**	**463,591**
Per Cent Increase				54.9%	51.0%	52.9%

†State Count, July, 1936. *Road under Construction.

TABLE No. 5

TRAFFIC CHECKS AT LOS ANGELES COUNTY LINE

AVERAGE WEEK-DAY — 6 A.M. TO 10 P.M.

Counts on State Highways Based on State Surveys of July 1930 and July 1936
Counts on County Roads by Automobile Club, September 1930 and March 1937

STATION AT LOS ANGELES COUNTY LINE	1930 COUNTS In	1930 COUNTS Out	1930 COUNTS Total	1936-1937 COUNTS In	1936-1937 COUNTS Out	1936-1937 COUNTS Total
Malibu Road, Route 60	942	945	1,887	1,852	1,853	3,705
Ventura Blvd., Route 2	989	990	1,979	778	778	1,556*
Santa Susana Pass, Route 9	460	429	889	640	641	1,281
Santa Paula-Castaic, Route 79	508	508	1,016	659	660	1,319
Ridge Road, Route 4	1,168	1,167	2,335	2,272	2,272	4,544
Mint Canyon Road, Route 23	312	311	623	542	541	1,083
Base Line Avenue, Route 190			0	73	73	146
Foothill Blvd., Route 9	1,630	1,629	3,259	2,650	2,649	5,299
Arrow Highway	908	788	1,696	565	747	1,312
Holt Avenue, Route 26	3,463	3,463	6,926	4,832	4,832	9,664
5th Avenue, Route 19	1,586	1,587	3,173	2,276	2,276	4,552
Whittier Blvd., Route 2	2,351	2,350	4,701	2,941	2,941	5,882
Telegraph Road	1,264	1,199	2,463	1,208	943	2,151
Imperial Highway			0	245	245	490
La Mirada Road, Route 171	2,934	2,889	5,823	1,042	1,042	2,084†
Firestone Blvd., Route 174			0	2,765	2,765	5,530
Artesia Avenue, Route 175	797	904	1,701	425	425	850
Orangethorpe Avenue	1,499	1,480	2,979	957	956	1,913
Lincoln Avenue, Route 178			0*	1,262	1,263	2,525
Spring Street			0	391	392	783
Anaheim Road, Route 179	2,171	2,306	4,477	1,675	1,675	3,350
Hathaway Avenue, Route 60			0	3,391	3,391	6,782
Ocean Blvd., Old Route 60	6,001	6,002	12,003	2,260	2,261	4,521
TOTAL	**28,983**	**28,947**	**57,930**	**35,701**	**35,621**	**71,322**
Per Cent Increase				23.2%	23.1%	23.1%

*Road under Construction.
†Estimated from State Counts on Routes 62 and 171, July, 1936.

TABLE No. 6

SHOWING NUMBER OF MOTOR VEHICLES ENTERING AND LEAVING THE CENTRAL BUSINESS DISTRICT (BOUNDED BY SUNSET, SAN PEDRO, WASHINGTON AND FIGUEROA STREET) ON AN AVERAGE WEEK DAY FROM 6 A.M. TO 10 P.M.

Traffic Counts by Automobile Club of Southern California, 1936

HOURS	TOTAL VEHICLES In	TOTAL VEHICLES Out	HOURLY DIFFERENCE In	HOURLY DIFFERENCE Out	TOTAL VEHICLES ACCUMULATED IN DISTRICT
A.M.					
6- 7	9,046	6,524	2,522		2,522
7- 8	27,449	13,065	14,384		16,906
8- 9	30,517	15,423	15,094		32,000
9-10	23,191	16,369	6,822		38,822
10-11	20,956	17,379	3,577		42,399
11-12	19,840	17,742	2,098		44,497
P.M.					
12- 1	17,114	16,402	712		45,209
1- 2	18,167	17,220	947		46,156*
2- 3	19,500	19,762		262	45,894
3- 4	19,104	21,477		2,373	43,521
4- 5	20,467	27,419		6,952	36,569
5- 6	19,408	35,093		15,685	20,884
6- 7	13,441	17,938		4,497	16,387
7- 8	14,991	13,407	1,584		17,971
8- 9	12,043	12,195		152	17,819
9-10	8,508	11,851		3,343	14,476
TOTAL	**293,742**	**279,266**			

*Maximum number accumulated from vehicles crossing District Boundaries.

TABLE No. 7

MISCELLANEOUS TRAFFIC COUNTS
NUMBER OF MOTOR VEHICLES PER 16-HOUR WEEK-DAY FROM 6 A.M. TO 10 P.M.

Traffic Counts by Automobile Club of Southern California, September and August 1937

STREET	LOCATION	N or E	S or W	TOTAL
York Boulevard	East of Eagle Rock	6,280	6,794	13,074
Silver Lake Boulevard	North of John Street	5,263	5,529	10,792
Riverside Drive	North of Dayton Avenue Bridge	10,561	10,720	21,281
Riverside Drive	North of Figueroa Street Bridge	6,305	8,710	15,015
Figueroa Street	South of Los Angeles River Bridge	13,886	15,112	28,998
Figueroa Street	On Los Angeles River Bridge	7,692	6,513	14,205
Dayton Avenue	On Los Angeles River Bridge	7,657	9,834	17,491
Sunset Boulevard	East of Figueroa Street	11,655	14,189	25,844
Figueroa Street	North of Temple Street	10,539	9,989	20,528
Figueroa Street	North of Olympic Boulevard	12,689	12,545	25,234
Figueroa Street	North of Washington Boulevard	12,018	12,388	24,406
Figueroa Street	North of 4th Street	11,392	11,226	22,618
San Pedro Street	North of 3rd Street	9,527	10,293	19,820
San Pedro Street	South of Olympic Boulevard	12,529	10,980	23,509
Washington Boulevard	East of Figueroa Street	15,462	15,637	31,099
Washington Boulevard	West of San Pedro Street	15,292	16,793	32,085
Washington Boulevard	West of Alameda Street	13,433	14,604	28,037
Washington Boulevard	West of Santa Fe Avenue	8,155	7,987	16,142
Avenue 26	On Arroyo Seco Bridge	6,697	6,938	13,635
Workman Street	North of Richmond Street	5,763	6,251	12,014
Soto Street	South of 1st Street	9,283	9,009	18,292
Hoover Street	North of 30th Street	10,120	9,464	19,584
Crenshaw Boulevard	North of Slauson Avenue	11,199	11,166	22,365

TABLE No. 8

SHOWING NUMBER OF MOTOR VEHICLES CROSSING FIGUEROA STREET ON PRINCIPAL EAST AND WEST STREETS OUTSIDE CENTRAL BUSINESS DISTRICT PER 16-HOUR WEEK-DAY FROM 6 A.M. TO 10 P.M.

Traffic Counts by Automobile Club of Southern California, July and August 1937

STREET	LOCATION	EAST	WEST	TOTAL
NORTH OF SUNSET BOULEVARD				
El Modena Avenue	East of Figueroa Street	7,425	7,426	14,851*
York Boulevard	West of Figueroa Street	6,280	6,794	13,074
Avenue 26	South of Figueroa Street	6,938	6,697	13,635
San Fernando Road	South of Figueroa Street	11,015	11,015	22,030*
Sunset Boulevard	East of Figueroa Street	11,655	14,189	25,844
Sub-total North of Sunset Boulevard		43,313	46,121	89,434
SOUTH OF WASHINGTON BOULEVARD				
Washington Boulevard	East of Figueroa Street	15,462	15,637	31,099
23rd Street	West of Figueroa Street	2,240	2,449	4,689
Adams Street	West of Figueroa Street	7,863	7,898	15,761
30th Street	East of Figueroa Street	1,285	998	2,283
Jefferson Boulevard	East of Figueroa Street	7,976	7,774	15,750
Exposition Boulevard	East of Figueroa Street	2,667	1,780	4,447
Flower Street	North of Figueroa Street	9,406	7,216	16,622
Santa Barbara Avenue	East of Figueroa Street	10,996	12,316	23,312
Vernon Avenue	East of Figueroa Street	4,075	4,120	8,195
45th Street	East of Figueroa Street	1,719	1,890	3,609
46th Street	East of Figueroa Street	1,700	1,895	3,595
47th Street	East of Figueroa Street	1,014	1,241	2,255
54th Street	East of Figueroa Street	1,908	1,749	3,657
Slauson Avenue	East of Figueroa Street	11,579	10,273	21,852
Florence Avenue	East of Figueroa Street	10,841	11,363	22,204
Manchester Avenue	East of Figueroa Street	11,276	11,276	22,552*
Redondo Beach Boulevard	West of Figueroa Street	1,830	1,830	3,660
Victoria Street	East of Figueroa Street	700	700	1,400
Carson Street	West of Figueroa Street	1,800	1,800	3,600
Sepulveda Boulevard	West of Figueroa Street	1,000	1,000	2,000
State Street	West of Figueroa Street	3,500	3,500	7,000*
Anaheim Street	West of Figueroa Street	3,500	3,500	7,000
Sub-total South of Washington Boulevard		114,337	112,205	226,542
GRAND TOTAL OUTSIDE CENTRAL BUSINESS DISTRICT		**157,650**	**158,326**	**315,976**

*State Highway Department Count, July, 1936.

TABLE No. 9

SHOWING NUMBER OF MOTOR VEHICLES CROSSING OLYMPIC BOULEVARD ON PRINCIPAL NORTH-SOUTH STREETS OUTSIDE CENTRAL BUSINESS DISTRICT PER 16-HOUR WEEK-DAY FROM 6 A.M. TO 10 P.M.

Traffic Counts by Automobile Club of Southern California, July and August 1937

STREET	LOCATION	NORTH	SOUTH	TOTAL
WEST OF FIGUEROA STREET				
Lincoln Boulevard	South of Olympic Boulevard	7,500	7,500	15,000
Sawtelle Boulevard	South of Olympic Boulevard	1,500	1,500	3,000
Sepulveda Boulevard	South of Olympic Boulevard	3,703	3,703	7,406†
Westwood Boulevard	South of Olympic Boulevard	2,500	2,500	5,000
Beverly Glen Boulevard	South of Olympic Boulevard	1,500	1,500	3,000
Doheny Road	North of Olympic Boulevard	1,657	2,257	3,914
Roberston Boulevard	North of Olympic Boulevard	3,804	3,483	7,287
La Cienega Boulevard	North of Olympic Boulevard	8,279	8,199	16,478
Fairfax Avenue	North of Olympic Boulevard	3,946	5,429	9,375
Hauser Boulevard	North of Olympic Boulevard	1,180	836	2,016
La Brea Avenue	North of Olympic Boulevard	12,733	11,467	24,200
Rimpau Boulevard	North of Olympic Boulevard	2,209	1,768	3,977
Wilton Place	North of Olympic Boulevard	4,467	3,652	8,119
Crenshaw Boulevard	North of Olympic Boulevard	10,752	7,553	18,305
Western Avenue	North of Olympic Boulevard	13,532	13,124	26,656
Harvard Boulevard	North of Olympic Boulevard	1,644	1,642	3,286
Vermont Avenue	North of Olympic Boulevard	12,999	12,214	25,213
Hoover Street	North of Olympic Boulevard	4,982	4,636	9,618
Alvarado Street	North of Olympic Boulevard	8,274	8,215	16,489
Union Avenue	North of Olympic Boulevard	4,466	4,303	8,769
Figueroa Street	North of Olympic Boulevard	12,689	12,545	25,234
Sub-total West of Figueroa Street		124,316	118,026	242,342
EAST OF SAN PEDRO STREET				
San Pedro Street	South of Olympic Boulevard	12,529	10,980	23,509
Central Avenue	South of Olympic Boulevard	9,407	10,359	19,766
Alameda Street	South of Olympic Boulevard	13,108	13,364	26,472
Santa Fe Avenue	South of Olympic Boulevard	9,375	9,235	18,610
Soto Street	South of Olympic Boulevard	12,429	12,075	24,504
Downey Road and Lorena Avenue	South Intersection	6,683	6,362	13,045
Atlantic Boulevard	South Anaheim-Telegraph Road	9,396	9,396	18,792*
Sub-total East of San Pedro Street		72,927	71,771	144,698
GRAND TOTAL OUTSIDE CENTRAL BUSINESS DISTRICT		**197,243**	**189,797**	**387,040**

†State Highway Department Count, July, 1937.
*State Highway Department Count, July, 1936.

TABLE No. 10

SHOWING NUMBER OF MOTOR VEHICLES IN THE CENTRAL BUSINESS DISTRICT (BOUNDED BY SUNSET, SAN PEDRO, WASHINGTON AND FIGUEROA STREET) ON AN AVERAGE WEEK-DAY IN SEPTEMBER, 1937, AT NOON

Parked in Garages	10,102
Parked in Parking Lots	28,764
Parked at Curb	10,915
Moving on Streets	3,675
TOTAL IN DISTRICT	**53,456**

TABLE No. 11

CAPACITY AND AVERAGE DAILY USE OF PUBLIC PARKING GARAGES IN THE AREA BOUNDED BY SUNSET, SAN PEDRO, WASHINGTON AND FIGUEROA STREET

Determined by Survey by Automobile Club of Southern California, July 1929

FROM	TO	NUMBER	Capacity at One Time (1)	Average Number of Cars Parked at One Time (1)	Average Number of Cars Parked Per Day (1)
BETWEEN FIGUEROA AND SAN PEDRO STREETS					
Washington Blvd.	Venice Blvd.	2	40	24	31
Venice Blvd.	Pico Street	8	226	136	157
Pico Street	12th Street	4	315	193	200
12th Street	11th Street	2	65	30	35
11th Street	10th Street	9	464	309	370
10th Street	9th Street	11	1,255	1,060	1,882
9th Street	8th Street	16	1,384	1,001	1,386
8th Street	7th Street	5	575	430	610
7th Street	6th Street	7	730	600	900
6th Street	5th Street	8	920	685	900
5th Street	4th Street	11	3,308	2,615	3,450
4th Street	3rd Street	10	1,817	1,150	1,765
3rd Street	2nd Street	7	649	448	500
2nd Street	1st Street	1	115	55	60
1st Street	Temple-Market	4	540	395	450
Temple Street	Sunset Blvd.	6	395	250	360
TOTAL		**111**	**12,798**	**9,381**	**13,056**

(1) Estimated by Operator.

TABLE No. 12

CAPACITY AND AVERAGE DAILY USE OF PUBLIC PARKING GARAGES IN THE AREA BOUNDED BY SUNSET, SAN PEDRO, WASHINGTON AND FIGUEROA STREET

Determined by Survey by Automobile Club of Southern California, September 1937

FROM	TO	NUMBER	Capacity at One Time (1)	Average Number of Cars Parked at One Time (1)	Average Number of Cars Parked Per Day (1)
BETWEEN FIGUEROA AND SAN PEDRO STREETS					
Washington Blvd.	Venice Blvd.	2	75	35	50
Venice Blvd.	Pico Street	5	153	79	114
Pico Street	12th Street	4	400	225	245
12th Street	11th Street	3	120	100	100
11th Street	Olympic Blvd.	11	669	508	545
Olympic Blvd.	9th Street	16	1,405	1,205	1,984
9th Street	8th Street	16	1,265	978	1,073
8th Street	7th Street	7	940	712	930
7th Street	6th Street	9	1,030	815	1,110
6th Street	5th Street	11	1,091	870	1,295
5th Street	4th Street	13	3,448	2,745	3,630
4th Street	3rd Street	11	1,328	945	1,260
3rd Street	2nd Street	5	550	345	405
2nd Street	1st Street	1	115	50	60
1st Street	Temple Street	6	465	315	355
Temple Street	Sunset Blvd.	4	255	175	215
TOTAL		**124**	**13,309**	**10,102**	**13,371**

(1) Estimated by Operator.

TABLE No. 13

CAPACITY AND AVERAGE DAILY USE OF PUBLIC PARKING LOTS IN THE AREA BOUNDED BY SUNSET, SAN PEDRO, WASHINGTON AND FIGUEROA STREET

Determined by Survey by Automobile Club of Southern California, July 1929

FROM	TO	NUMBER	Capacity at One Time (1)	Average Number of Cars Parked at One Time (1)
BETWEEN FIGUEROA AND SAN PEDRO STREETS				
Washington Blvd.	Venice Blvd.	16	3,030	206
Venice Blvd.	Pico Street	15	638	220
Pico Street	12th Street	14	815	501
12th Street	11th Street	24	1,720	976
11th Street	10th Street	19	2,335	1,725
10th Street	9th Street	35	4,612	3,535
9th Street	8th Street	34	2,906	2,250
8th Street	7th Street	35	3,922	2,924
7th Street	6th Street	29	2,814	2,103
6th Street	5th Street	22	2,267	1,553
5th Street	4th Street	22	2,228	1,645
4th Street	3rd Street	24	1,699	1,339
3rd Street	2nd Street	16	1,270	980
2nd Street	1st Street	16	1,076	658
1st Street	Temple-Market	14	1,312	761
Temple Street	Sunset Blvd.	11	727	565
TOTAL		**346**	**33,371**	**21,941**

(1) Estimated by Operator.

TABLE No. 14

CAPACITY AND AVERAGE DAILY USE OF PUBLIC PARKING LOTS IN THE AREA BOUNDED BY SUNSET, SAN PEDRO, WASHINGTON AND FIGUEROA STREET

Determined by Survey by Automobile Club of Southern California, September 1937

FROM	TO	NUMBER	Capacity at One Time (1)	Average Number of Cars Parked at One Time (1)
BETWEEN FIGUEROA AND SAN PEDRO STREETS				
Washington Blvd.	Venice Blvd.	41	3,250	504
Venice Blvd.	Pico Street	59	2,775	1,049
Pico Street	12th Street	29	1,431	970
12th Street	11th Street	44	2,496	1,408
11th Street	Olympic Blvd.	38	2,653	1,703
Olympic Blvd.	9th Street	57	4,435	3,422
9th Street	8th Street	55	4,385	3,347
8th Street	7th Street	39	4,215	3,139
7th Street	6th Street	42	3,505	2,616
6th Street	5th Street	26	2,230	1,687
5th Street	4th Street	41	2,925	2,279
4th Street	3rd Street	32	2,412	1,878
3rd Street	2nd Street	31	1,935	1,230
2nd Street	1st Street	27	1,892	1,439
1st Street	Temple Street	22	1,600	1,060
Temple Street	Sunset Blvd.	26	1,725	1,033
TOTAL		**609**	**43,864**	**28,764**

(1) Determined by Aerial Photographs, September 8, 1937.

TABLE No. 15

NUMBER OF MOVING CARS ON THE STREETS AT 12:30 P.M. ON SEPTEMBER 8, 1937, IN THE AREA BOUND BY SUNSET, SAN PEDRO, WASHINGTON AND FIGUEROA STREET

Determined from Aerial Photographs by Automobile Club of Southern California

STREET	FROM	TO	NUMBER
NORTH AND SOUTH STREETS			
Figueroa Street	Washington Boulevard	Sunset Boulevard	246
Flower Street	Washington Boulevard	Temple Street	189
Hope Street	Washington Boulevard	Temple Street	75
Grand Avenue	Washington Boulevard	Sunset Boulevard	131
Olive Street	Washington Boulevard	Temple Street	122
Hill Street	Washington Boulevard	Sunset Boulevard	173
Broadway	Washington Boulevard	Sunset Boulevard	248
Spring Street	9th Street	Sunset Boulevard	139
Main Street	Washington Boulevard	Sunset Boulevard	237
Los Angeles Street	Washington Boulevard	Alameda Street	319
Santee Street	Washington Boulevard	North of 8th Street	26
Maple Avenue	Washington Boulevard	5th Street	53
Wall Street	Washington Boulevard	3rd Street	54
Cecilia	9th Street	8th Street	1
Trinity-Myrtle	Washington Boulevard	Pico Street	1
San Julian	15th Street	5th Street	17
San Pedro	Washington Boulevard	Aliso Street	145
Sanchez	Arcadia	Plaza	3
Bunker Hill	4th Street	Sunset Boulevard	4
Sub-total North and South Streets			2,183
EAST AND WEST STREETS			
Washington Boulevard	Figueroa Street	San Pedro Street	143
18th Street	Figueroa Street	Main Street	11
17th Street	Hope Street	Maple Avenue	8
Venice Boulevard	Figueroa Street	San Pedro Street	67
15th Street	Hope Street	San Pedro Street	17
14th Street	Grand Avenue	Maple Avenue	2
Pico Street	Figueroa Street	San Pedro Street	92
12th Street	Figueroa Street	San Pedro Street	66
11th Street	Figueroa Street	San Pedro Street	46
10th Street	Figueroa Street	San Julian Street	69
9th Street	Figueroa Street	San Pedro Street	120
8th Street	Figueroa Street	San Pedro Street	130
7th Street	Figueroa Street	San Pedro Street	103
Wilshire Boulevard	Figueroa Street	Grand Avenue	38
6th Street	Figueroa Street	San Pedro Street	97
5th Street	Figueroa Street	San Pedro Street	81
Winston Street	Main Street	San Pedro Street	4
4th Street	Figueroa Street	San Pedro Street	61
Boyd Street	Los Angeles Street	San Pedro Street	6
3rd Street	Figueroa Street	San Pedro Street	54
2nd Street	Figueroa Street	San Pedro Street	62
1st Street	Figueroa Street	San Pedro Street	73
Weller	2nd Street	1st Street	7
Temple-Market	Figueroa Street	San Pedro Street	36
Sunset Boulevard	Figueroa Street	Los Angeles Street	72
Court Street	Flower Street	Hill Street	1
California	Figueroa Street	Broadway	5
Boston	Figueroa Street	Bunker Hill	0
Ft. Moore	Hill Street	Justicia	0
Jackson	Los Angeles Street	San Pedro Street	0
Commercial Street	New High	San Pedro Street	7
Plaza	Main Street	Los Angeles Street	3
Aliso Street	Los Angeles Street	San Pedro Street	10
Arcadia	Main Street	Los Angeles Street	1
Sub-total East and West Streets			1,492
GRAND TOTAL			**3,675**

TABLE No. 16

SHOWING NUMBER OF VEHICLES PARKED AT THE CURB ON AVERAGE WEEK-DAY IN JULY, 1929, AND IN OCTOBER, 1937, IN THE AREA BOUNDED BY SUNSET, SAN PEDRO, WASHINGTON AND FIGUEROA STREET

Survey by Automobile Club of Southern California

STREET	FROM	TO	NO. PARKED 1929	NO. PARKED 1937
NORTH AND SOUTH STREETS				
Figueroa Street	Washington Boulevard	Sunset Boulevard	419	370
Flower Street	Washington Boulevard	Temple Street	485	503
Hope Street	Washington Boulevard	Temple Street	453	503
Grand Avenue	Washington Boulevard	Sunset Boulevard	592	533
Olive Street	Washington Boulevard	Temple Street	675	526
Hill Street	Washington Boulevard	Sunset Boulevard	485	428
Hill Street	Over Tunnel		35	40
Broadway	Washington Boulevard	Sunset Boulevard	420	464
Broadway	Over Tunnel		121	94
Broadway Place	Main Street	Broadway	20	19
Spring Street	9th Street	Sunset Boulevard	307	280
Main Street	Washington Boulevard	Sunset Boulevard	493	503
Los Angeles Street	Washington Boulevard	Sunset Boulevard	572	603
New High	Commercial Street	Sunset Boulevard	109	59
Santee Street	Washington Boulevard	North of 8th Street	248	366
Maple Avenue	Washington Boulevard	5th Street	359	360
Wall Street	Washington Boulevard	3rd Street	457	480
Cecilia	9th Street	8th Street	36	45
Trinity-Myrtle	Washington Boulevard	Pico Street	82	73
San Julian Street	15th Street	5th Street	375	405
San Pedro Street	Washington Boulevard	Aliso Street	480	485
Sanchez	Arcadia	Plaza	36	36
Bunker Hill	4th Street	Sunset Boulevard	188	126
Justicia	Ft. Moore	Temple Street	109	
Margo	Pico Street	14th Street		54
Clay	4th Street	2nd Street		14
Stockton	South of California			19
Pavilion	South of California			9
Sub-total North and South Streets			7,556	7,397
EAST AND WEST STREETS				
Washington Boulevard	Figueroa Street	San Pedro Street	119	139
18th Street	Figueroa Street	Main Street	130	140
17th Street	Hope Street	Maple Avenue	108	184
Venice Boulevard	Figueroa Street	San Pedro Street	112	150
15th Street	Hope Street	San Pedro Street	214	226
14th Street	Grand Avenue	Maple Avenue	146	161
14th Place	Hill Street	Main Street		41
Pico Street	Figueroa Street	San Pedro Street	149	205
12th Street	Figueroa Street	San Pedro Street	132	183
11th Street	Figueroa Street	San Pedro Street	139	147
Olympic Boulevard	Figueroa Street	San Julian Street	193	162
9th Street	Figueroa Street	San Pedro Street	163	156
8th Street	Figueroa Street	San Pedro Street	210	163
7th Street	Figueroa Street	San Pedro Street	155	125
Wilshire Boulevard	Figueroa Street	Grand Avenue		59
6th Street	Figueroa Street	San Pedro Street	204	79
5th Street	Figueroa Street	San Pedro Street	228	149
Winston Street	Main Street	San Pedro Street	106	109
4th Street	Figueroa Street	San Pedro Street	187	146
Boyd Street	Los Angeles Street	San Pedro Street	53	57
3rd Street	Figueroa Street	San Pedro Street	148	85
3rd Street	Over Tunnel		16	28
2nd Street	Figueroa Street	San Pedro Street	100	29
2nd Street	Over Tunnel		19	30
1st Street	Figueroa Street	San Pedro Street	183	134
Weller	1st Street	San Pedro Street	50	53
Temple Street	Figueroa Street	Main Street	84	80
Sunset Boulevard	Figueroa Street	Los Angeles Street	78	50
Court Street	Flower Street	East of Hill Street	100	85
California	Figueroa Street	Broadway	47	106
Boston	Figueroa Street	Bunker Hill		5
Ft. Moore	Hill Street	East of Hill Street	38	24
Jackson	Los Angeles Street	San Pedro Street		4
Market Street	Main Street	San Pedro Street	33	6
Commercial Street	Main Street	San Pedro Street	18	2
Plaza	Main Street	Los Angeles Street	18	3
Aliso	Los Angeles Street	San Pedro Street	16	1
Arcadia	Main Street	Los Angeles Street		2
Republic	New High	Main Street		10
Sub-total East and West Streets			3,696	3,518
GRAND TOTAL			**11,252**	**10,915**

TABLE No. 17

SHOWING NUMBER OF VEHICLES PARKED AT CURB ON AVERAGE WEEK-DAY, OCTOBER, 1937, IN THE AREA BOUNDED BY FIRST, MAIN, NINTH AND FIGUEROA STREETS

Survey by Automobile Club of Southern California

STREET	FROM	TO	NO. PARKED 1937
NORTH AND SOUTH STREETS			
Figueroa Street	9th Street	1st Street	87
Flower Street	9th Street	1st Street	205
Hope Street	9th Street	1st Street	195
Grand Avenue	9th Street	1st Street	239
Olive Street	9th Street	1st Street	272
Hill Street	9th Street	1st Street	157
Broadway	9th Street	1st Street	225
Spring Street	9th Street	1st Street	192
Main Street	9th Street	1st Street	109
Bunker Hill	4th Street	1st Street	74
Clay	4th Street	2nd Street	14
Sub-total North and South Streets			1,769
EAST AND WEST STREETS			
9th Street	Figueroa Street	Main Street	36
8th Street	Figueroa Street	Main Street	76
7th Street	Figueroa Street	Main Street	61
Wilshire Boulevard	Figueroa Street	Grand Avenue	59
6th Street	Figueroa Street	Main Street	15
5th Street	Figueroa Street	Main Street	66
4th Street	Figueroa Street	Main Street	62
3rd Street	Figueroa Street	Main Street	42
2nd Street	Figueroa Street	Main Street	5
1st Street	Figueroa Street	Main Street	48
3rd Street	Over Tunnel		28
2nd Street	Over Tunnel		30
Sub-total East and West Streets			528
GRAND TOTAL			**2,297**

TABLE No. 18

CAPACITY AND AVERAGE DAILY USE OF PUBLIC PARKING GARAGES IN THE AREA BOUNDED BY FIRST, MAIN, NINTH AND FIGUEROA

Determined by Survey by Automobile Club of Southern California, September 1937

FROM	TO	NUMBER	Capacity at One Time (1)	Average Number of Cars Parked at One Time (1)	Average Number of Cars Parked Per Day (1)
BETWEEN FIGUEROA AND MAIN STREETS					
9th Street	8th Street	13	1,157	885	975
8th Street	7th Street	6	860	632	832
7th Street	6th Street	5	570	405	510
6th Street	5th Street	6	551	400	755
5th Street	4th Street	6	2,900	2,325	3,005
4th Street	3rd Street	6	1,090	750	1,055
3rd Street	2nd Street	3	215	110	120
2nd Street	1st Street	1	115	50	60
TOTAL		**46**	**7,458**	**5,557**	**7,312**

(1) Estimated by Operator.

TABLE No. 19

CAPACITY AND AVERAGE DAILY USE OF PUBLIC PARKING LOTS
IN THE AREA BOUNDED BY FIRST, MAIN, NINTH AND FIGUEROA

Determined by Survey by Automobile Club of Southern California, September 1937

FROM	TO	NUMBER	Capacity at One Time (1)	Average Number of Cars Parked at One Time (1)
BETWEEN FIGUEROA AND MAIN STREETS				
9th Street	8th Street	32	2,870	2,267
8th Street	7th Street	20	2,035	1,650
7th Street	6th Street	21	1,880	1,497
6th Street	5th Street	15	1,245	940
5th Street	4th Street	26	2,245	1,737
4th Street	3rd Street	22	1,837	1,425
3rd Street	2nd Street	25	1,710	1,049
2nd Street	1st Street	23	1,522	1,160
TOTAL		**184**	**15,344**	**11,725**

(1) Determined by Aerial Photographs, September 8, 1937.

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